

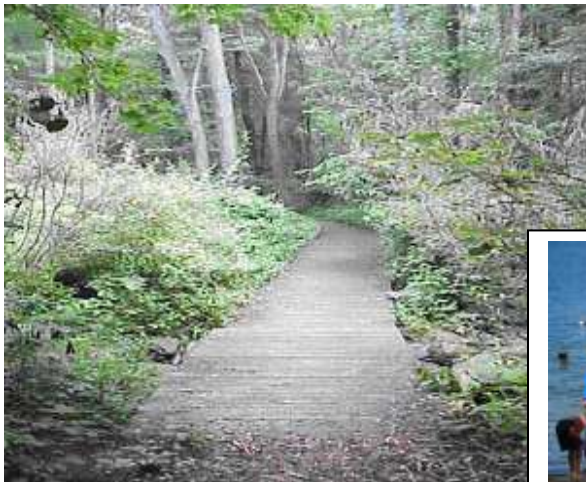


City of Marlborough



DRAFT

Open Space and Recreation Plan 2011 - 2018



Open Space and Recreation Plan Requirements TABLE OF CONTENTS

Section 1: Executive Summary	4
Section 2: Introduction	6
A. Statement of Purpose	
B. Planning Process and Public Participation	
Section 3: Community Setting	10
A. Regional Context	
B. History of the Community	
C. Population Characteristics	
D. Growth and Development Patterns	
Section 4: Environmental Inventory and Analysis	24
A. Geology, Soils and Topography	
B. Landscape Character	
C. Water Resources	
D. Vegetation	
E. Fisheries and Wildlife	
F. Scenic Resources and Unique Environments	
G. Environmental Challenges	
Section 5: Inventory of Lands of Conservation and Recreation Interest	36
A. Private Parcels	
B. Public and Nonprofit Parcels	
Section 6: Community Vision	39
A. Description of Process	
B. Statement of Open Space and Recreation Goals	
Section 7: Analysis of Needs	40
A. Summary of 2009 Open Space and Recreation Survey	
B. Summary of 2006 SCORP – state open space plan recommendations for the Marlborough area	
C. Summary of Natural Resource Protection Needs	
D. Summary of Community Needs	
1. Parks and recreation	
2. Conservation	
3. Community connections	
E. Management Needs, Potential Change in Use	
Section 8: Goals and Objectives	65
Section 9: Seven-Year Action Plan	68
Section 10: Public Comments & letters of review	100
Section 11: References	101

MAPS

Map 1-	Open Space in the City of Marlborough and the Protected lands in surrounding towns.
Map 2	Zoning Map 2010
Map 3	Unique Landscape Features Map
Map 4	Water Resources Map

Map 5	Wildlife Habitat Areas and Corridors
Map 6	Protected Land
Map 7	Unprotected Land
Map 8	Intercommunity Trail Link
Map 9	Bike Map
Map 10	Seven year Action Plan
Map 11	Environmental Justice Map
Map 12	Soils Map

APPENDIX

Appendix A -List of Open Space and Recreation Committee participants

Appendix B – City Wide Survey and Survey Results

1. Lists of the 44 Organizations Notified about the Survey
2. Copy of 2009 Survey
3. Summary of Open Space and Recreation Survey Marlborough MA- 2009

Appendix C - Assabet River Trail Map- (canoe map guide)

Appendix D- Storm drain markers and door hanger and Water bill brochure

Appendix E – Recreation Department List of programs

Appendix F- Recreation Department 7 year capital plan

Appendix G- Americans with Disabilities Act Compliance documents

Part I - Administrative requirements:

1. Designation of ADA Coordinator
2. Grievance Procedures
3. Public Notification Requirements
4. Participation of Marlborough Commission on Disabilities

Part II – Program Accessibility

1. Facility Inventory
2. Transition Plan

Part III- Employment Practices

Appendix H- Comments from OSRP Public Meeting November 16, 2010 and October 30, 2013

EXECUTIVE SUMMARY

OPEN SPACE AND RECREATION PLAN EXECUTIVE SUMMARY

Marlborough's geographic location and solid infrastructure combine with its areas of open space and natural resources creates a community with lots of resources to make it a great place to live. This open space plan identifies the community's natural, recreational and cultural resources and determines what steps the city must take to preserve and maintain these important community resources. It also looks into the future to determine what resources will be needed to help maintain the quality of life that is enjoyed today.

The primary goals, as noted in section eight of this Open Space and Recreation Plan, are to preserve the unique natural resources and character of the city, to educate citizens about the benefits of these resources and to provide adequate recreational opportunities for the community. This 2011 Open Space and Recreation plan provides the inventory, history, needs analysis and action plan to implement these goals over the next seven years.

The plan includes:

- A summary of achievements of the 2003-2008 Open Space Plan.
- An overview of the City's cultural history, population characteristics, growth and development patterns.
- An environmental inventory of the community's natural resources, scenic features, water resources, plants and wildlife.
- An inventory of lands of conservation and recreation interest. Included are maps of all city, state and private land used for recreation and conservation, as well as undeveloped parcels to provide a visual reference about which land remains undeveloped in the city.
- An analysis of conservation and recreation needs within the city, including management, planning needs and acquisition recommendations, to protect natural resources, and provide adequate open space and recreational facilities for a diverse and growing population.
- List of goals and objectives with a 7-year action plan.

Major recommendations provided in this plan include:

- Acquire as appropriate undeveloped parcels of land including: South St. swamp and Shoestring hill, remaining open parcels around Ft. Meadow Reservoir, and smaller parcels adjacent to already protected parcels and parcels that provide natural links between existing city owned and protected lands. See seven year action plan map (Map #10)

- Develop an intercommunity trail system so all residents have a means to take a walk not far from their homes. This includes providing sidewalk links to recreation sites, schools and conservation land destinations.
- Improvements to existing recreation areas including Ward Park and Memorial Beach.
- Aggressively pursue state and/or private grant funds for improvements to recreation facilities and acquisition of land for open space and for creating open space links and trails.
- Development of an additional major recreational facility at the old Bolton Street Landfill.
- Invest in green spaces and improve aesthetics by planting trees, removing invasive vines to preserve trees and planting shade and heritage trees, maintaining a green infrastructure.
- Help preserve the remaining farms in the community.
- Achieve Open Space Goals and in tandem support the Sustainability Action Plan and Smart Growth.
- Engage community citizens in preserving and maintaining open space, recreation and natural resource areas throughout the city.

Although the city was very successful in achieving many of the goals in the 2003 plan including upgrading the recreational facilities and improving conservation land trail, the development pressures on the last remaining parcels of land within the city will be strong and will get stronger when the economy improves.

It will be up to the Mayor, City Council, city boards, committees and residents to push for the protection of these last remaining parcels to save the remaining natural and unique character of the city. It is critical that the City protect specific areas of land through conservation restrictions, open space preservation and/or land acquisition to ensure that future generations can enjoy a life with clean lakes, clean drinking water, abundant wildlife, wooded and paved trails for passive recreation and adequate opportunities for active recreation. In addition, it is critical for the city to manage these open spaces and recreational facilities for future generations and ensure proper funding to maintain what the city already has. In addition it will be critical for the city to manage its green landscapes and prevent pollution of land, air and water resources by asking citizens in the city to do their part to help protect the environment. This goal ties to the bigger picture of helping make the City of Marlborough a greener community- to protect the environment and the personal health of our citizens by protecting our natural resources and providing access to healthy recreational opportunities.

The challenge over the next 5 years will be to ensure that the city plans ahead and saves the parcels of land that are important to the character of the community. Keeping hills undeveloped and ensuring that every neighborhood has a piece of open space or recreation land near by to find peace and quiet and a place to walk or exercise.

INTRODUCTION

A. Statement of Purpose

As Marlborough's popularity among both businesses and homeowners continues to grow, the city is faced with the possibility of losing the very characteristic that sets it apart from other industrialized communities in eastern and central Massachusetts: its acres of parks and still some remaining undeveloped land. This Open Space Plan reflects Marlborough's desire to preserve the city's open spaces, by creating more passive and active recreation and increasing its hospitality toward sustainable businesses wishing to locate here. The challenge today is greater than ever, as open land is fast disappearing to development.

This document takes an inventory of the existing open space, recreation and natural resources currently available in the city. The plan then looks to the future and seeks to evaluate our current and future needs. The final section of the plan provides a realistic five- year action plan with specific actions and tasks necessary in order to meet these goals.

Successes of 2003-2008 Open Space and Recreation Plan

The successes of the 2008 Open Space and Recreation Plan from June 2003 through December 2009 are summarized below. The Mayor, City Council, Recreation Commission, Conservation Commission along with other boards and commissions and citizens groups made great headway in achieving many of the goals set out in the 2003-2008 Open Space and Recreation Plan. Below is a list of these noteworthy achievements which form the platform on which to build this current plan.

Wetlands and Water Quality Improvements:

- In 2009 the city adopted a Stormwater Ordinance to better protect our water resources- lakes, streams, and reservoirs.
- The city purchased a long parcel of land along Rte. 20 near Lake Williams to do improvements along this roadway for water quality and aesthetic purposes.
- Boy scouts marked all storm drains (over 500) to educate citizens about the connections between our street drains and our wetlands and waterways.
- The Conservation Commission with volunteer help, established an "adopt-a-stream" program in which citizens were trained to walk streams and document their health and identify any water quality problems along the way. The resulting reports provide an action plan for upgrading and enhancing the water quality and wildlife habitat in riparian- wetland corridors

Recreation

- By far the biggest accomplishment of the 2003-2008 plan were the huge strides the Recreation Department was able to make to meet

- their, playground, field and program needs. The successes are noted here and are highlighted in more detail in section 7 of this report.
- All 15 playgrounds in the city were upgraded with new equipment and are all now handicapped (ADA) accessible.
 - An additional playgrounds was added to the Whitcomb Middle School.
 - New municipal playing fields were constructed including:
 - Little League baseball at Williams St.;
 - Youth Softball field added at Hildreth School;
 - Jr. Babe Ruth baseball and fencing at Stevens Park.
 - In addition some private fields were constructed at ForeKicks on Forest St and Fay School off Mill St., and at the Assabet Valley Vocational High School
 - The Assabet River Rail trail was completed in 2005 and since then additional amenities such as a trail head signage, kiosks and benches were installed, many provided by boy scouts, volunteers or through donations. Girl scout groups have adopted visible intersections of the trail and installed and maintained flower gardens.
 - Jericho Hill recreation facility was completed and includes a sledding hill and recreational field, basket ball courts and indoor recreation program and meeting locations for programs throughout the year.
 - Ft. Meadow Boat Access and Boat house acquisition and renovations have been completed. It now provides boat access to Hudson and Marlborough residents.
 - Of the 23 facilities used for recreation all have now been upgraded to meet handicapped accessibility requirements where feasible. New safer and accessible playground equipment, spectator and athlete access to equipment, fields and parking were all great improvements (see section 7 for details).

Conservation

- Kiosks were constructed at all conservation lands with trail systems
- Conservation land maps upgraded with GIS maps are now available on the city's web site.
- A local citizens group called Green Marlborough has lead nature walks on Marlborough Conservation lands and state parks once a month in the spring, summer and fall to introduce residents to these areas.
- No land was purchased outright during the 2003-2008 timeframe, however, several open space development land parcels were transferred to the Conservation Commission during this time.
- The Conservation Commission currently manages and protects 610 acres of land.

Historic

- Uniform signage was provided at all historic cemeteries throughout the city, to identify these historic places.
- An inventory of all historic headstones was compiled by volunteers for the Marlborough Historic Commission and can be viewed at the Marlborough Historic Commission office.

Community achievements:

- The walking school bus program was implemented. Now as many as 1,000 kids walk to school under this healthy, non-polluting commuting option
- Marlborough Country Club implementing Integrated Pest Management on their golf turf to promote good turf health, reduce the use of herbicides, pesticides and fertilizers thus protecting the North Branch of Mowry Brook.
- Sustainability Action Plan 2008 was released which will help Marlborough meet the criteria in Massachusetts' Green Community program aimed to help reduce greenhouse gas emissions and help the city to achieve reductions in energy use and save money.
- Green Marlborough was formed which is a group of residents and businesses promoting environmentally sustainable choices in the community. They are working to make a healthy environment for people who live and work in Marlborough! They have held Earthday Fairs over the past 3 years and helped to bring awareness to the community about green choices.

The Challenges for the 2011-2016 plan

The city has taken important steps in its effort to protect its natural resources, however the next seven years will be even more critical to preserving the character of this city. Managing our natural resources, water supply, wildlife habitat and open areas for passive recreation will also be a challenge as more pressure is placed on the use and demands of these resources. Providing adequate recreation facilities both active and passive throughout the city with an ever-changing population both in age and culture provides additional challenges. This plan outlines the steps needed to ensure that the city's character and the quality of life we enjoy today is protected. Only by **envisioning the future and planning for it**, can we achieve these goals. This plan attempts to provide the city government and its citizens with the steps needed to achieve that.

B. Planning Process and Public Participation

Mayor Nancy Stevens appointed the Open Space and Recreation Committee (OSC) members in 2008. These members represent the City Council, Planning Board, Conservation Commission, Recreation Commission, Department of Public Works, Sportsmen, Green Marlborough, and Residents of the city, who have expressed a genuine interest in addressing the City's open space and recreation needs. (List of participants can be found in Appendix A) The Committee met 11 times from 2008 - 2010 and with the help of the survey and input from many groups established a list of current needs and goals, compiled an inventory of all City parcels not yet developed and prepared a draft plan for public review.

In March 2009 the OSC posted an Open Space and Recreation Survey Marlborough MA on the city Conservation Commission web site and on the main City of Marlborough web site. Notification regarding the availability of the survey was given through the local newspapers and by the OSC members to 44 separate civic associates, clubs, neighborhood organizations, boards and commissions and business groups (a list of these groups can be found in Appendix B- 1). Residents were asked to take the survey on line, and could also send them in paper form to be entered into the computer. The survey was developed through the Survey Monkey program. A copy of the survey and the results from the survey can be found in Appendix B-2 and B-3, 272 people responded to the survey. The 2003-2008 Open Space and Recreation Plans along with the 2009 survey, and results from the discussions with various civic organizations within the community formed the basis for this 2011-2018 Open Space and Recreation Plan.

A public meeting was held on November 16, 2010 to allow the public to review the draft document and provide comment. The public was notified of the availability of the draft report through news releases to the local media, civic organizations and the library. The draft report was posted to the city web site for review. Sixteen people attended the public meeting, and a local volunteer taped the presentation and it was shown on the local cable station for several weeks after the presentation. Specific comments were provided both at the meeting and in writing which are included in Appendix H. These comments where appropriate were incorporated into the plan.

On October 30, 2013 the Committee held a second public meeting to reach out to the Environmental Justice (EJ) Community and the public at large and to explain the changes made to the plan since the meeting in 2010 and review the plan. Various groups who serve the EJ community were notified including the Boys and Girls Club, several area churches, the Human Services groups, the list of the groups and a summary of these meetings are included in Appendix H. Specific comments were provided at the meeting and in writing and where appropriate have been incorporated into the plan.

The goal of the Open Space Committee was to prepare a plan that best reflects the diverse views and needs of Marlborough's residents and establishes guidelines and recommendations to meet those needs.

SECTION 3

COMMUNITY SETTING

Regional Context

The City of Marlborough is located 17 miles east of Worcester and 25 miles west of Boston, on the western most perimeter of Middlesex County. The Framingham-Marlborough region is known as the Metro West area. It is located at the intersection of Route I-495, I-290 and Route 20. The Metro West area includes some of the wealthiest communities in the Commonwealth. The region has a higher per capita income, and a higher assessed valuation per capita than the state as a whole. Within the region, Marlborough, Framingham and Natick are the most industrialized communities, with the highest percentage of its tax base from commercial and industrial uses. Over the past ten years this region has seen a population increase which has outpaced the rest of the state.

The region contains many regional parks including such natural attractions as Callahan State Park, the Bay Circuit Trail, Sudbury Reservoir, the Assabet River, the Desert/Memorial Forest/Hop Brook Reservation Conservation Land, the 2000 acres of Assabet River Wildlife Refuge and parks owned and/or managed by the Audubon Society, Sudbury Valley Trustees, New England Wildflower Society, and other groups. The headwaters of the Sudbury and Assabet Rivers are located in the area and flow to the Concord River.

The region also boasts numerous reservoirs, lakes and streams. These water resources include: the Sudbury Reservoir, which extends into Southborough and is a back-up water supply to the Massachusetts Water Resource Authority managed by the State Department of Conservation Recreation; Millham Reservoir/Lake Williams the (city's water supply); Ft. Meadow Reservoir which extends into Hudson and is a shared recreation lake; and the headwaters of the Hop Brook Stream system which begins in Marlborough, and flows through Sudbury on its way to the Sudbury River. Hop Brook flows beside the world-renowned Wayside Inn Historic Site and "The Little Red Schoolhouse" in Sudbury, memorialized by Longfellow.

1. Regional Planning Efforts:

Regional open space resources: In the early 1990's the Conservation Commission was involved with a regional open space mapping effort spearheaded by the Metrowest Growth Management Committee (MWGMC). The purpose of the mapping project was to educate bordering towns about open space linkages and connecting parcels, both for conservation purposes and to provide wildlife corridors and ecological connections between municipalities. The result of this mapping effort was a map that illustrated Marlborough in the regional context. This regional view has since spawned four regional open space efforts at three of the four corners of Marlborough.

These include the southeast corner- Greater Callahan Open Space Preservation and Greenway Plan and the Sudbury Reservoir Watershed System 2002 Public Access Plan Update; the northeast corner- Natural Resource Inventory & Management Plan for the Desert Project Area in Marlborough and Sudbury, and the northwest corner-Upper Assabet Riverway Plan. In the southwest corner of the city, the city has worked closely with the Southborough, Northborough, Westborough Trails committee's and the Sudbury Valley Trustees to interconnect trails in this corner of the city. Each of these regional plans is describe briefly below. These areas are also illustrated on **Map #1**.

The Greater Callahan Open Space Preservation and Greenway Plan, produced in October 2000, was a collaborative effort of Marlborough, Framingham, Southborough, and Sudbury to look at regional land acquisitions. This document identifies the properties along the eastern and southern corner of our city that are important to protect and preserve, including larger greenway corridors that overlap community boundaries. There are some key parcels in the area that will provide a vital link between existing large parcels of open space, thus protecting a large intact area of forested land for wildlife protection, aesthetic and recreational values. Since this report was issued the group has met once a year to provide updates about regional efforts and lent support to the adjacent communities. Several properties have been protected in Sudbury and Framingham which has enlarged this regional open space area including the protection of Nobscot Hill in Sudbury and Framingham. These meetings will continue.

The Sudbury reservoir is a backup water supply for the MWRA system supplying most of the Boston region with a backup water source. The Department of Conservation Recreation is charged with the management of this reservoir; as such they have produced a plan called "Sudbury Reservoir Watershed System 2002 Public Access Plan Update" and a subsequent plan titled: "Sudbury Reservoir Watershed Land Management Plan 2005-2014". There is interest in opening up more of the land to walkers along the reservoir. (No in-water boating or swimming-access is permitted as this is a public water supply). There are potential future links along the old aqueduct into the town of Framingham from Marlborough. These regional linear links in the future will likely be important recreational resources. Opening the Sudbury Reservoir to public access must be carefully balanced with protection of this water resource as outlined in both plans noted above. Therefore, access to this property should be considered a privilege, not a right and must be used for passive recreation, with no dogs allowed. Public access map can be found at the following link:

<http://www.mass.gov/dcr/watersupply/watershed/maps/SudburyAccessMap.pdf>. Discussion with DCR has begun regarding the use of the old filter beds as a nice walking trail system. This will be pursued in the future. The plan is also due for its 5 year review and update in 2010.

In addition **Metrowest Knox Trail Heritage Corridor** has been established. In this region the Metrowest Knox Heritage Trail comes east through Weston, Wayland, Framingham, Southborough, and up Rt. 85 and along Rt. 20 West in Marlborough then west through Northborough and beyond. This historic trail runs from Boston Harbor to Ft. Ticonderoga, NY. The Knox trail is marked throughout its route and has historic significance as the route used in the revolutionary war to bring important artillery from Ft. Ticonderoga to fight the Redcoats in Boston. As we improve roadways along this route the city should be sure where feasible, to promote this historic "automobile trail route" as a history to our past.

The Upper Assabet Riverway Plan completed in December 2002 has been an effort of representatives from Westborough, Northborough, Marlborough, Berlin and Hudson working together along with the Sudbury Valley Trustees and the Organization for the Assabet River to provide a plan with a vision for the Assabet River's protection and enhancement over the next 15 years. The plan looks at the progress made to the river since 1986, assesses its current state and provides some guidance to the upper Assabet River Communities on local actions which should be implemented to protect the river greenbelt and improve water quality. The plan includes recommendations for land protection along the river as well. The plan provides a great "river trail" map which is included in Appendix C. Two canoe launches were constructed along the Assabet one on Robin Hill St. near the bridge and the other on Donald Lynch Blvd. behind the book store.

The Desert Natural Area, Memorial Forest, Hop Brook Marsh, referred to as 'The Desert/Memorial Forest', combine 600 contiguous acres of forest, streams and open meadowland. In 1995, the city, working with the State Forest, managed by the Department of Conservation Recreation; the Memorial Forest, owned and managed by the Sudbury Valley Trustees and a smaller piece owned by The Greater Federation of Women's Clubs; and The Hop Brook Marsh owned and managed by the Sudbury Conservation Commission produced a joint management plan for the coordinated protection of the 600 acres of The Desert/Memorial Forest. The coordinated management effort has been very successful. The 2000+-acre transfer of the old Fort Devens Annex land from the US Army to the US Division of Fish and Wildlife in Hudson and Sudbury abuts the Desert Memorial Forest area. This refuge is now called the Assabet River National Wildlife Refuge (ARNWR). The refuge is open to the public for passive recreation and hunting. A visitor center is to be opened to the public in fall of 2010. All five land owners along with staff at the ARNWR continue to work together to ensure that both these large areas are managed jointly for wildlife habitat protection and biodiversity and that recreation opportunities are well thought out to allow access but also habitat protection.

The Assabet River Rail Trail (ARRT), The Assabet River Rail Trail 5.6 mile section from Marlborough through Hudson was completed in 2005. This section is well used by many bikers, walkers, roller bladers, strollers, runners, joggers and commuters. The entire trail, which when completed will be a 12 mile trail, travels from the center of Marlborough to the South Acton Train station, running through Hudson, Stow and Maynard. This linear park will connect many town centers, schools, recreational fields and conservation land. The completion of the entire 12 mile stretch of the ARRT is projected for 2014. A second abandoned railroad runs through this region, known as the Central Mass line. Over the years there has been support for the conversion of this railroad into a trail to be called the Wayside Trail running from Waltham to Berlin, crossing the ARRT in Hudson. Regional support for both these proposed trails is strong. We hope to see the remaining 6+ miles of the ARRT completed by 2014 before this report runs out. Both trails when/if constructed will bring much needed alternative transportation as well as a much-anticipated recreational facility.

2. Regional Water Supply Resources:

As noted above the Sudbury Reservoir which extends from Marlborough into Southborough and Framingham is a backup water supply for these communities and the MWRA water supply system. The protection of this reservoir for some open space recreation, wildlife habitat protection and most importantly water supply will be a delicate balancing act. With the

requirements by the Environmental Protection Agency (EPA) for storm water improvements in the region, the treatment of storm water runoff from the City of Marlborough street drains into the reservoir will be needed to improve the water quality. A study done in June 1997, titled Watershed Protection Plan Sudbury Reservoir and Framingham Reservoir #3, revealed that Walker Brook, which drains the majority of the city's highly urbanized center, provides a large percentage of phosphorous and other nutrients and contaminants into the Sudbury Reservoir. The report recommends the reactivation of the DCR (formerly MDC) owned filter beds located between Rte. 85/Maple St. and Framingham Rd. as a best management practice to help settle/filter out most of the pollutants entering the reservoir from Walker Brook. Since future water demand throughout the region is expected to increase, the potential for future use of this reservoir as a primary water supply in the next 50 years exists. Therefore, every effort to keep this future use in mind as the area is developed will be critical for regional protection.

The town of Hudson has several drinking water wells that are located near the northern west boundary of Marlborough. The wellhead zone II is along Donald Lynch Blvd in Marlborough and Brigham St. in Hudson, this area is zoned Limited Industrial in Marlborough. If development is proposed near this zone the Town of Hudson will be asked to review the plans to ensure protection of its wells. Any future development in any of these areas must be sensitive to these water supply resource areas. These areas are shown on Map #4

3. Historical Perspective

Changes in Marlborough's social fabric are due, in large part, to changes in its industrial base, and those changes have always been dramatically affected by the city's transportation systems. For more than a century, Marlborough has served as a job center for the region. As those jobs have changed, so has its population.

In the Colonial era, Marlborough was a favored stop along the Boston Post Road, which still serves as the city's major highway (U.S. Route 20). Taverns and inns dotted the route, ready to service the travelers from Boston whose horses needed their first watering of the journey. At the time of the Civil War, Marlborough was said to be the fourth-largest manufacturer of shoes in the nation. Business boomed as local factories produced boots for Union troops. Craftsmen and fortune-seekers flocked here from Italy and Ireland, but the largest single immigrant group came from the French-speaking provinces of Canada. The influence of the French-Canadians lives on in the names of places: French Hill, Versailles Street, the convent of the Sisters of Saint Chretienne.

The once agrarian community, known previously as a violent battlefield in the King Philip's War, became the home of the nation's first electric streetcar in the 1860s. With links to Maynard and Milford, central Massachusetts' other manufacturing centers, the rail system helped the textile industry to grow.

The streetcars were replaced by buses in the 1920s and over the ensuing thirty years, the shoe factories closed their doors and moved south toward cheaper labor and more favorable climates. By the 1960s, Marlborough was a blue-collar community down on its luck, finally tearing up the streetcar tracks that had survived World War II reclamation efforts, as if in concession that its heyday had come and gone.

At the same time, the Commonwealth of Massachusetts was finishing Interstate 495, a piece of President Eisenhower's national highway system which, through political pressures, was brought through Marlborough's west side. Community leaders took the unusual step of zoning acres of apple orchards along the highway as industrial land, and bringing in water and sewer lines. And Marlborough waited.

In the early 1980s when, tired of the traffic congestion along "America's Technology Highway" in Waltham and Woburn, tiny computer manufacturers like Digital Equipment Corporation, Stratus Computer, and Apple began buying and building on Marlborough's west side. Easy access to all of New England's largest cities caught the attention of major hotel chains such as Best Western, Quality Suites and the Marriott, whose plans for a 17 story hotel were killed by a community that wanted industrial growth, but not that fast.

The building boom in 1990's saw a tremendous increase in commercial and business development in the southwest industrial park, including the development of the Solomon Pond Mall complex. By 2002 plans were on the books to develop all but one of these last remaining large parcels within this industrial park area. The completion of the long awaited 495 interchange onto Crane Meadow Rd. has encouraged this boom and has alleviated traffic congestion, for the time being, on the Rte. 20 corridor.

Today, Marlborough has a diverse economic base, including large companies such as Ken's foods, Dow Chemical and Raytheon, to name a few, and numerous hotels and restaurants, retail buildings and a convention center. This diverse economic base provides a wide range of employment from the highly trained white collar workers to the lower-skilled labor force. The number of jobs available in Marlborough is about 28,000 according to the state Department of Employment and Training. (2000 census data)

During the down turn in the economy in 2008-2009 several smaller businesses have closed their doors and several of the larger businesses have changed their workforce numbers. In addition limited capacity in the Westerly Wastewater Treatment Plant has required all new developments to pay into the repair of inflow and infiltration into the sewer system to reduce the volumes of clean groundwater being treated at the treatment plant. However, the city is hopeful that when the economy turns the city will have the ability to promote sustainable development practices with energy efficient buildings, and low carbon emissions facilities for all new construction moving forward.

Population Characteristics

The new 2010 Census will go out shortly so there are not any new numbers from the census bureau to update this plan. 2000 census information was used.

The 2002 U.S. Census data with 2006 projections

Population -	38,062 projected 2006 projected change from 2000-	5%
Median income-	\$56,879	-state rank 152
Percent of population with college degrees-	36%	up from 26.6% in 1990
Hispanic or Latino population	2,196	(increased 64.1%)
Asian Population	1,364	(increased 125.1%)

Housing units 14,903 change from 1990 12,152
Population density per sq. mile of land use. 1,719.4 people per square mile and 706.8 housing units per square mile.
Public School enrollment pre-K to 12, 2001 to 2002 – 4,754 students up from 4462 in 1997 an increase of 292 students.

Source: 2000 US Census

The change in the population and demographic numbers from the 1990 census to the 2000 census, pointed to a changing population that required the Open Space Committee to determine if the open space and recreation needs had changed as well.

A population increase of 4,442 people in the last 10 years is substantial and will likely increase during the next census cycle in 2010. The projected full build out of the community population is 43,522, which is an additional total of 7,267 people over the current 2000 census numbers. This increasing population has and will require additional services from the community including water use, sewer capacity, recreational facilities, both passive and active, for children and adults. The current needs that were identified are described in more detail in section 7.

The following chart illustrates the city's population by age- using demographics provided by the Miser UMass Population data which included the 2010 projections. The 2010 projected number is what we used to give us an idea where the needs by age group would fall. (This report was done before the 2010 census data was available.)

In addition we looked at the maps provided by the state showing the Environmental Justice Populations in the central region (This map is shown as Map 11 in the appendix) The populations meeting the environmental justice criterion are for income, minority population and foreign born which are located mainly in the center city.

Numbers from Miser UMass Population data

http://www.umass.edu/miser/population/Documents/age_sex_mcd_county_state.xls

AGE	TOTAL	TYPE OF RECREATION USES NEEDED #PERSONS
	Projected 2010	
Infant toddler up to 4 years	2,552	Parks and recreation space- tot lots should be distributed evenly throughout the city
Child to young adult 5-19	7,078	Parks and recreation space should be distributed evenly throughout the city.
Adult 20-44	13,265	Active recreation, walking, biking, passive recreation
Middle Age 45-64	10,087	Active recreation, walking biking, passive recreation
Elderly 65+	4,521	Easily accessible open space, indoor facilities, passive recreation easily accessed.

Source: 2000 Census

Based on this data it appears that the city needs to focus some of its resources on ensuring that the recreation facilities for adults and middle age members of the community are being met along with the needs of the youth of the community.

The recent increase in Brazilian, Hispanic/Latino population has increased the interest and demand for soccer fields for kids and adults. As the level of education increases in the residents of the city, the demand for walking trails, bike-paths, places for roller-blading, running and jogging will also increase. These factors all were used to determine the needs of the community, which are discussed in detail in section 7.

D. Growth and Development Patterns

1. Patterns and Trends

The City of Marlborough is a business friendly community with many assets attractive to new and expanding industries: a central location with easy highway access to all of New England's major cities, excellent infrastructure designed specifically to attract new industry, a skilled labor force, diverse housing stock, and still some future development potential. The city has capitalized on its natural assets through pro-development policies. However, during the economy down turn in 2008-2010 the city, as with the country, has felt its fair share of businesses fold and leave, although the larger businesses such as Raytheon, Dow, Kens Foods, continue to provide jobs and employment opportunity.

One reliable indicator of development trends is job creation. According to the State Department of Employment and Training, the jobs in Marlborough have been increasing steadily from 1990. In 1990 there were 20,531 jobs in the city, by 2000 during the height of the economic boom employment had risen to 28,869. Since the slowdown in the economy the numbers have fallen somewhat. However, Marlborough still remains a place to do business given the current plan developments still coming in.

Given this trend for continued growth and the pressure on land development which is anticipate to be strong when the economy turns, the Open Space and Recreation Committee felt the urgency to identify the key parcels of undeveloped land within the City and provide a plan to protect the parcels which provide important value to the Community whether for open space and recreation, water supply protection or aesthetic value. These parcels and their values are discussed further in Sections 4 and 7. The next seven years will determine what the future character of the Community will be. Some large tracts of undeveloped land will soon have development pressure, and it is only by ensuring that some or all of this land is protected will the city preserve the quality of life now enjoyed by its residences. Specific steps and actions are discussed further in sections 4, 7, 8 and 9.

2. Infrastructure

a. Transportation

In the 1960's and 1970's, community leaders enacted new zoning regulations and began building

water and sewer facilities designed to encourage industrial development in the southwest corner of the city bounded by Route 20 on the north and Interstate I-495 on the east. With few residences and easy access to the interstate, development has and will occur in this area without significant impact on residential neighborhoods. Interstate I-495 could be considered Marlborough's greatest transportation asset. With three existing interchanges, I-495 provides easy access to Marlborough's industrial parks from major cities throughout New England. By car, Marlborough is located approximately an hour from Hartford, Providence, and Manchester/Nashua. The drive to downtown Boston is 40 minutes, to Worcester is 20 minutes. If a company requires proximity to suppliers or customers throughout the northeast, or access to air, sea or rail transportation in a suburban setting, Marlborough always ranks very high in the site selection process.

Route 20, the City's major east-west artery, is zoned for business its entire length with smaller pockets west of Route 85 zoned Limited Industry. Route 20 has seen increases in traffic congestion in the past 10 years and future development along this corridor will need to consider the impacts of the current zoning. In addition the I-495 interchange at Simarano Drive may require upgrades in the next 5 years depending on how the economy rebounds and new development takes hold in Marlborough West and Northborough East.

In addition to the highway system the city has a small public bus system which transports people to Framingham and the commuter rail system as well as to local destinations such as the Mall and downtown Marlborough.

As the city works towards becoming a greener community, bike lanes additional sidewalks and additional bus routes should provide for greener alternatives. Already the Walking School bus program- also known as the safe walk to schools- has been able to enlist 1000 kids to walk to school rather than taking the bus or driving a car. These alternative modes will help to make Marlborough residents healthier and protect the environment.

b. Water Supply System

Marlborough's drinking water comes from two sources, the Massachusetts Water Resources Authority (MWRA) supplies about 70% of the current average daily yield, and 30% is provided by the city's local sources. The MWRA supply originates at Quabbin Reservoir in western Massachusetts. The water is piped through a series of aqueducts, and then treated at the Walnut Hill treatment facility before being pumped directly into the city's distribution system.

The local source of water is the Millham Reservoir/Lake Williams system. Lake Williams is connected to Millham Reservoir by Millham Brook. An intake at Millham Reservoir pumps water to the adjacent treatment plant, which filters and treats the water before distributing it to the community. Over 98% of the city is serviced by municipal water. Only a few private drinking water wells remain in use throughout the city. Water service is thus available to all but a few residences. The city's average daily water usage is 4.51 MGD ('09) with a maximum of 8.98 million gallons per day available. The EOEA build out analysis indicates that at full build out the city will need 7.4 million gallons/day, which is just below the city's current allocated capacity. For ecological reasons as well as economic reasons, the wise use and protection of our local water sources will thus be important to the city's future planning efforts.

Protecting watershed land around Lake Williams and Millham Reservoir will be important to the future of Marlborough. Protection can be through outright acquisition and ownership, or through regulations to ensure that new and redeveloped area work to improve stormwater quality for this area. See map #4 showing this watershed, shown as watershed zone 3.

c. Sewer Service

The city provides its own sewer services, through two sewer treatment plants. The westerly plant which services most of the western section of the city, discharges to the Assabet River. The second plant is located on the eastern side of the city and discharges into the Hop Brook system which flows into Hager Pond and the Hop Brook pond system in Sudbury to the Sudbury River. The city treats an average of 8.4 million gallons of sewerage per day. The City has performed a Comprehensive Wastewater Management Plan for the Westerly facility to determine future sewer needs for this section of the community and is currently in the process of upgrading the Westerly wastewater facility. The Easterly Wastewater Treatment Plant is in the process of facilities planning for present and future needs for this section of the city. The US EPA and State DEP will soon be issuing permits for both facilities, which are anticipated to require greater reduction of nutrients and expensive upgrades of both facilities.

Sewer service is extended to all industrial areas and all but 10% of residences. The city's master plan schedule is to sewer all non-sewered areas within the next 19-20 years. With the availability of sewer service to almost all parts of the city, soil limitations for septic systems is no longer a building constraint, thus placing added pressure for development on the more marginal parcels which in the past were not suitable for septic systems due to ledge or poor soils.

d. Other Assets

Further enhancing the facility with which projects can be built in Marlborough is the City's form of government. Staff professionals, working with elected boards and commissions, are given the responsibility for ensuring that development occurs in an orderly fashion. Zoning changes and special permits are approved by the City Council and Planning Board, each of which meets twice a month. A pro-development attitude is evidenced through other means as well.

- In May 1994, the city received designation by the State Economic Assistance Coordinating Council as part of regional Economic Target Area. This designation permits the City to participate in the State's new Economic Development Incentive Program, offering packages of state and local tax incentives to qualified businesses. The Marlborough region was among the first areas so designated. This has been used to qualify for tax incentive programs. This program phases in property taxes and qualifies the companies for state investment tax, allows businesses to stay or come into Marlborough and thus increase employment opportunities for the region.
- The city has a history of working closely with the Marlborough Chamber of Commerce. Ongoing collaborative efforts include municipal financial support for the Chamber's Transportation Management Association (reduces transportation needs) and development of a package of marketing materials.

- The 495 MetroWest Partnership, is a regional collaborative of representative governments and businesses which stretch from Boxboro to Franklin along this highway corridor. The group is looking at infrastructure sewer/water /permitting and economic development. Since its inception this group has played a key roll in promoting regional planning ideas.
- Marlborough Economic Development Corporation was established in 2007 and is “the state-chartered economic development corporation for the city of Marlborough, Massachusetts. MEDC is a unique and innovative public-private collaboration whose mission is to implement proactive initiatives for business and industrial expansion in the City with a goal of creating and preserving valued jobs in our broad-based economy and fostering commercial growth and revitalization in the City’s downtown and historic neighborhoods...”(taken from <http://marlboroughedc.com/>)
- Over the past five years the Planning Director has been part time and then one year full time, however this position was not funded again in FY2011. Successful planning items over the past five years have included:
 - The Lift 7 bus service to provide much needed public transportation from Marlborough to the Framingham train station.
 - Focus on redevelopment of inner city brownfield sites (hazardous waste site which have been abandoned and need cleanup) has given new hope for redeveloping some of the eyesores in the center city area.
 - In addition some much needed changes to ordinances to help improve efficiency and focus new developments and redevelopments to meet higher standards, for example landscaping, to bring some continuity to and upgrade the look of the city, have been tackled.
 -

However, the added pressure of the Ch. 40B state regulations, which allow for the development of affordable housing if the community has not reached its 10% required quota of affordable housing, will place significant added pressure to the City of Marlborough after 2010. In 2007 the City was able to meet its 10% affordable housing quota. However, after the 2010 US Census these numbers will be reevaluated. If the city falls below its 10% allocation then it will be once again vulnerable to 40B challenges. The continued threat of 40B projects in locations where the Community had not zoned for housing development will continue to put pressure on the community for the foreseeable future. It is advisable for the city to keep pace with its affordable housing needs as developments are approved so that the city stays ahead of the 10% requirement.

Marlborough's desire to attract and keep commercial development has long been established. However, in order to preserve our community character, it is time to balance this longstanding pro-development attitude with attention to the city's diminishing open space and recreational resources. As development continues apace, the pressure on the city's water supply, wastewater disposal system, and remaining open space and wildlife habitats will continue to build. It is important to identify and set aside those areas that are important to our community from an ecological, recreational, scenic, or water resources standpoint before they are lost forever.

3. Longterm Growth and Development Patterns

a. Industrial Development

Although the City of Marlborough has experienced an unusual rate of industrial development over the past decade, there still are a few choice parcels of commercial/industrial zoned land available for development.

b. Changing Housing Stock

Census and housing data paint a similar picture of the city's population. Residents are becoming relatively more affluent and better educated, and new housing construction is primarily at the high end of the market. Although apartments abound the new affordable housing stock is still quite expensive and doesn't prevent some of the increased housing over crowding which has become a problem, especially with the immigrant population. Over crowding has become even more problematic with the downturn in the economy and increase in immigrant population.

According to the U.S. Census Bureau, in the late 1970's and early 1980's, Marlborough's per capita income was at or slightly below the statewide average. From 1985 through the present, the local per capita income was higher than the statewide average, in one year by as much as 9 percent. In 1979, only 18.6 percent of the city's population over the age of 25 were college graduates, according to the 1980 U.S. Census. Twenty years later, the 2000 U.S. Census, shows that the percent of population with college degrees has increased to 36 percent.

c. Local Zoning Ordinances

Marlborough's development has been guided by the city's zoning and local ordinances. The zoning map is included in the plan and shown as **Map # 2**. Below are the local ordinances which guide development within the city:

The city has made some changes in zoning regulations as recommended in the 2003 -2008 plan including the adoption of the Stormwater Management and Illicit Discharge Detection and Elimination Ordinances both designed to help improve water quality. These along with the existing ordinances have helped to protect some of the city's open spaces and encouraged more green space in commercial and industrial developments. These changes reflect a stronger commitment by the city to be sure that development not only be sensitive to but also enhance, the environmental, scenic and aesthetic qualities of the community. The following development initiatives have been implemented:

➤ **Water Supply Protection District:**

The Water Supply Protection District ordinance was passed in 1997. The main goals of this ordinance are to preserve the quality and quantity of water in the city's reservoirs (Lake Williams and Millham Reservoir), and to ensure that future growth within this watershed does not have an adverse impact on water quality. The ordinance limits impervious surfaces in commercial and industrial developments, requires storm water

runoff treatment before being discharged into a tributary to the reservoir, and requires greater protection of wetlands surrounding these tributaries.

➤ **Open Space Development Ordinance: (zoning)**

The Open Space Development Ordinance (OSD) provides developers an option to increase lot density beyond the zoning ordinarily allowed in exchange for dedicating a percentage of their land to open space protection in perpetuity. Since the ordinance was adopted in 1988, the majority of subdivision proposals have opted to develop subdivisions using the open space development ordinance and the city has preserved over 100 acres of land without any direct cost to the city. The OSD ordinance provides significant opportunity for the city to implement long term planning initiatives that include preserving greenway corridors that link to existing areas of open space and recreation.

➤ **Site Plan Review:**

The site plan review ordinance established in 1989 provides specific review criteria which require that all departments concerned with development in the city provide input on all new or redeveloped commercial development plans throughout the city. This ensures a comprehensive review of all plans, which might have a significant impact on the surrounding land. Departments included in the site plan review process are: Building, Fire, Police, Engineering, Planning, Conservation, and Board of Health departments.

➤ **Watershed Protection Fund for Land Acquisition:**

The city established a watershed protection fund in 1992. This fund dedicates 5% of the water billings to be set aside for the purchase of water supply land and water supply development. Through this fund, the city has purchased 120 acres of the Hillside School property, which is a significant portion of the undeveloped watershed to Millham Reservoir, also purchased was a 27-acre parcel of land on Berlin Rd.

➤ **Zoning Landscape and Lot Coverage Ordinances:**

The landscape and lot coverage provisions of the city's Zoning Ordinance require that 70% residential, 20%-business, and 40%-industrial, of any project be devoted to landscaped areas and/or green space islands within parking lots to provide green space and shade for these parcels. This is greatly improving the visual appearance of new development and softens the impact of development on surrounding businesses and residences. It also provides pervious surfaces through which rainwater can recharge the groundwater table. These provisions were past in 1987 and continues to improve the appearance of the city.

➤ **Scenic Roads:**

M.G.L. Ch. 40, s.15C is enabling legislation that allows communities to adopt by-laws and ordinances for designating certain roads as "scenic". 22 roads throughout Marlborough were designated as scenic roads in 1992 these are: Parmenter Rd., Hemenway St. Sudbury St., Concord Rd., Stow Rd., Spoonhill Ave., Hosmer St., Stevens St., Ash St, Fitchburg St., Pleasant St., Berlin Rd., Westhill Rd., Elm St., Millham St,

Bigelow St., Robin Hill Rd., Boundary St., Farm Rd. Clover Hill St, Beach St., Brigham St. The Scenic Road designation provides for independent review by the Planning Board of any plans for roadway construction that would impact trees and stonewalls on these roads. By protecting trees and stone walls, the rural character of these roadways is preserved. These stonewalls and tree lined ways provide a form of relief from the standard highway cross-section.

➤ **Wetlands Protection:**

In 1996 the Conservation Commission formally adopted a written wetland setback policy, establishing a 20 foot "no disturbance" buffer area around all wetlands to help protect the integrity of those areas. This is a small, but important step toward increased protection of Marlborough's waterways. However, continued development has put increasing pressure on the city's last remaining wetlands. A wetland protection ordinance is recommended in section 7 and 8 that will improve the ability of the city to better protect these important resources.

The Massachusetts Wetlands Protection Act (MGL 131 §40) was amended in 1997 to include provisions to better protect rivers and river corridors. The law now requires a 200-foot riverfront area along rivers, defined as perennial streams, to be protected where the land is still pristine. A local ordinance could help provide added protection to these important wildlife corridors. Although much of the city's riparian land is already developed down to the shoreline, there are still some significant parcels within the city that are subject to these rules. The law also requires that storm water runoff meet high clean water quality standards for all development, and improve water quality for redevelopment of sites.

➤ **Historic District:**

Two historic districts have been established in the downtown area of the city. The first was established in 1996 as recommended by the Historic Commission and is a very small Local Historic District known as Monument Square which includes the area around the monument near the main library on Main St. up Mechanic St. to Lincoln St. This district was established under the local historic district MGL Ch. 40C. The second district is the Marlborough Center National Register district approved, which includes Main St. from the Library to the Old Fire station.

➤ **Stormwater Management Ordinance and Illicit Discharge Detection and Elimination Ordinance.**

These two ordinances passed in 2009 work to ensure that all stormwater discharging from all new and redeveloped land is treated to remove sand and other suspended solids which are washed off parking lots and paved roadways. This ordinance allows for the city to issue fines when silty runoff leaves construction sites, and ensures long term maintenance of the drainage system once it is installed. When some illegal discharge is put into the drainage system and ends up in a stream, the IDDE ordinance allows the city to investigate and stop the illegal discharge, whether it be someone putting paintwater, oil or other material into the drain which will foul the waterway.

All of these regulations have helped to steer development to be more sensitive to the

environment on which they are being built. Additional measures are still needed to improve environmental quality, ensure that the building stock is more energy efficient and built to provide better walking and biking modes of transportation as well as recreational opportunities. These are discussed in more detail in the needs and analysis Section 7 and under the Goals and Objectives Section 8 and 9.

ENVIRONMENTAL INVENTORY AND ANALYSIS

A. Topography, Geologic Features and Soils

Marlborough's topography is dominated by a series of hills separated by three distinct drainage basins, which include five large surface water impoundments. There are 15 hills in the community that range in height from 395 to 590 feet above sea level. The city's three water supply tanks are located on three of the more prominent hills: Sligo Hill (elevation 590), Fairmount Hill (elevation 538), and Spoonhill (elevation 487) these three hills are visible landmarks.

Marlborough's lowest elevations occur at the easterly and westerly ends of the community. On the east side, Hop Brook leaves Marlborough at elevation 217 and flows into the town of Sudbury to Gristmill Pond. This pond is the headwater to the Old Gristmill located off Wayside Inn Road. On the west, the Assabet River flows out of the northwest corner of the city into the town of Berlin then Hudson at elevation 210.

The hills of the community have slopes averaging 10% in grade and their base areas cover approximately 10% of the city's 22.2 total square miles. Portions of many of the city's hills do have slopes exceeding 15%. The remainder of the community is typically flatter in grade with several large areas of wetlands.

Soils in Marlborough are also typical of many communities in central Massachusetts. The United States Department of Agriculture, Soil Conservation Service has surveyed and mapped soils throughout the city and has identified over 70 different types of soils with the Charleton, Canton and Paxton groups dominating. These loamy, sandy soil types and the hill exposures in the southwest quadrant combined to provide excellent conditions for farming and agriculture during the late 19th and early 20th centuries. However, several of the hills are also drumlins which contain glacial till with a high content of clay, making some of these hills difficult to develop, however with newer technologies, these hills even with their difficult soils are being developed.

Large gravel and sand deposits can be found in those areas adjacent to the Assabet River and Sudbury Reservoir as well as in the extreme northeast corner of the city known as "The Desert". Throughout the city there are several major wetlands with their inherent organic soil types including Flagg Swamp, Crane Meadow, Howe Pond, and the areas abutting Sudbury Reservoir in the vicinity of Farm Road, Broadmeadow Street and Parmenter Street. These wetlands, slopes and hills are shown on **Map# 3**.

Because the city has 95% sewer service throughout, soil type and landscape features have not been a deterrent to development. Even some hills with extremely difficult silty soils and slopes, have been developed, which 20 years ago may not have been tackled. The only land features

which are protected from development are the wetlands, and land already placed under protection which is why, a plan to protect the remaining land features that give the city its character is so important. The soils map for the City can be found at the following web link. http://nesoil.com/soil_survey_of_middlesex_county.htm. These maps are full of detail. Map #12 shows the major soil features for the city.

B. Landscape Character

The center of the city is predominately built out and urban. As one moves away from the center the subdivisions of suburban homes become more and more spread apart and are separated by the hills and wetlands that abound throughout the city. On the outskirts of the community, the more open feel is still somewhat prevalent with open agricultural fields and forested woodlands interspersed among the subdivisions.

Marlborough's hills are the community's most dominating geographic features. The hills provide significant scenic value, whether they are appreciated from a distance or serving as a location for viewing other areas within and outside of the city. The last remaining farm lands on Stow Rd., Berlin Rd., South St., and Robin Hill St. provide visual open spaces that contribute a sense of space and country. Remnants of the once-abundant old apple orchards have all disappeared and have been converted into residential subdivisions and office parks, except for the old abandoned orchard next to Glen St. Preserving these hills and fields in whole or in part will help preserve some of this beauty and history.

Only a few hills remain undeveloped, these are: one side of Shoestring Hill, a portion of West Hill, which is now a tree farm; and a portion of Stirrup Hill. However, with continued development pressure these too may soon be slated for development in the near future. Over the past 10 years several prominent hills were developed including Crane Hill (3COM), Wheeler Hill (JPI), Hager Hill (off Crowley Dr), and a portion of Indian Hill (Target) which are no longer available for protection. However, Mt. Ward and Jericho Hill are now protected by the city for conservation and recreation purposes and provide important views and vistas to the surrounding developed landscape.

C. Water Resources

I. Surface Water

Marlborough is fortunate to have no less than five large surface water impoundments within its limits, all serve distinct and different primary functions as well as provide secondary recreational and open space benefits.

Millham Reservoir and Lake Williams, totaling 150 acres, serve as the city's two drinking water supplies. Fort Meadow Reservoir, which covers 290 acres, is the city's only active recreational water body, providing swimming, boating and fishing opportunities. A portion of the Department of Conservation Recreation (formerly MDC) Sudbury Reservoir extends into Marlborough on the southeast corner and serves as a backup drinking water supply for the Boston area. Hager Pond, located on the east side of the community, is a privately owned body of water covering 24 acres and is the backdrop for the historic Wayside Country Store.

Other important water resources are the city's many rivers and streams, including twelve main streams. The largest of these is the Assabet River, which flows through the northeast portion of the city. This Class B river has long been a favorite of local canoeists and fishermen, both upstream and downstream of the flood control facility known as Tyler Dam. Two boat access points along the river below the Tyler Dam at Robin Hill St. and on Donald Lynch Blvd are now in use. All the city's major streams are shown on **Map #4**. In some instances, these streams are prominent features in the landscape, while in others, they are barely noticeable or hidden behind homes or development.

2. Flood Hazard Areas

The FEMA flood map information has been incorporated into the city's Floodplain and Wetland Protection District ordinance map. The high flood hazard areas lie along the major tributaries. Along many of the significant streams a 50' or 30' set back requirement has been instituted through this zoning ordinance to eliminate building close to streams that have flooding potential. The FEMA maps are now available on line through FEMA's website and the City of Marlborough Public Works website.

3. Wetlands

Marlborough has many small wetlands and several large areas of wetlands including 200 acres Crane Meadow, 86 acres Flagg Swamp, 40 acres Howe Pond, the South Street swamp more than 50 acres and large parcels of land abutting the Sudbury Reservoir off Farm Road and Broadmeadow Road.

Wetlands are important resources to the community wildlife. Wetlands have long been recognized as resources, which help attenuate storm water flows and improve water quality. The city's Conservation Commission through the state's Wetland Protection Act manages protection and preservation of these areas. The city's wetlands areas are shown on Map # 4

4. Surface Water Recharge Areas and Aquifers

Beginning in 1974, the city took the first steps to protect its surface water supplies by acquiring over 200 acres of land abutting Millham Reservoir. This land was originally acquired for expansion of the reservoir itself; however, the cost to develop it for this purpose was later judged to outweigh the benefit of a very marginal estimated increase in supply. The land has remained undeveloped in order to protect the reservoirs watershed. At this time passive recreational use of these areas is not permitted due to water supply regulations.

In 1992, the city also acquired 122 acres of land immediately adjacent to Millham Reservoir when it purchased a portion of the property owned by Hillside School. Public access on this land is also not permitted due to state and federal water supply regulations.

In 1997 the City Council passed the Water Supply Protection District Ordinance which limits and controls development within the watersheds of Lake Williams and Millham Reservoir by prohibiting and/or limiting certain uses of these properties. It also requires a 50 foot

non-developable buffer zones along wetlands, streams and rivers within the watershed. The watershed boundary is shown on the enclosed **Map #4** as watershed area #3.

Although Marlborough does not have any public local groundwater well supplies, the Massachusetts Department of Environmental Protection (DEP) has identified several locations as areas with “high potential for aquifer locations”. In spite of several studies, which investigated the feasibility of developing certain of these areas as municipal drinking water supplies, no site has been found to provide both adequate volume and water quality to meet municipal drinking water standards. Since these areas have been determined through studies not to be significant for drinking water supplies, they have never been mapped on city resource maps. However, a copy of the USGS Aquifer Map is located in the city's Conservation office and the Department of Public Works GIS office.

Along the northern border the town of Hudson has two drinking water wells. The protected areas around these wells extend into the city limits. Any development in these areas should honor the protection of these water sources and consultation from the Town of Hudson should be solicited. These wellhead protection and Zone II areas are shown on Map #4

The city is divided into six major watersheds, which are also shown on **Map # 4** and include Lake Williams and Millham Reservoir watershed; Sudbury Reservoir watershed and Wachusett open channel; Ft. Meadow Reservoir watershed and Ft. Meadow Brook; and the Hop Brook watershed. The Millham, Ft. Meadow Reservoirs and Hop Brook systems drain north and are all part of the Assabet River watershed, whereas the remaining watersheds drain south and east into the Sudbury River watershed.

D. Vegetation

Marlborough has some significantly large woodland areas remaining, despite the community's explosive development during the 1960's, mid-1980's and again in the 1990's. These wooded areas, which include the watersheds to the Millham and Sudbury reservoirs, two state forests, and numerous conservation lands including The Desert, Cider Knoll, Mt. Ward, Jericho Hill, Holts Grove, Felton Conservation land and a city forest, have been preserved through the efforts of both the community and state.

Between 1997 and 2002, 200+ acres of open space previously identified as land of conservation value were lost to development. Between 2003-2010 143 acres of land were lost to development. The remaining large tracts of forested lands not currently protected and listed in section 6 are Hillside School's forested land north of Robin Hill St. in the northwest corner of the city, South St. Swamp, West Hill and Shoestring Hill along with several pieces of farm land. These are among the largest tracts of woodland and field areas remaining

Oaks, maples, ash, beech, birch, poplar and other species common to the Central Massachusetts region dominate woodlands in the city. Pockets of white and red pines are present along the Millham Reservoir, state forest and Sudbury Reservoir areas. Many of these pine stands were planted for timber use as part of old watershed management practices.

Increasingly invasive species such as bittersweet vines, purple loosestrife, glossy buckthorn,

Japanese knot weed, burning bush, and other vines, shrubs and trees are changing the vegetated landscape in the city. The Conservation Commission is working with a regional group called Sudbury-Assabet-Concord Cooperative Invasive Species Management Area (SuAsCo Cisma) to help identify, share resources and apply for grants to help control invasive species in areas where such invasions will cause harm to the existing landscape. This is seen as an ongoing problem that will need more attention and funding over time.

As part of the city landscape, the city does maintain street trees/ public shade trees, and has a scenic road ordinance which protects the scenic value of 22 streets throughout the city. The city has 185 miles of roadway. On an average year the city plants 50+ trees to replace those that are dying or damaged. 200-300 street trees a year are trimmed and maintained for good health and for safety. The city in the past was a member of the Tree City USA program and is hoping to reapply. Trees are an important feature of our city landscape, important to streetscapes and important to keeping sidewalks and streets cool during the warm summer months. Trees in our parks are also taken care of, several large beach trees provide beauty and much shade to several of our parks. In addition the city has a larch tree in an old historic cemetery that has been listed as a heritage tree.

E. Fisheries and Wildlife

Marlborough's many water bodies, wetlands and woodlands provide substantial environs for fish and wildlife. The Open Space and Recreation Committee identified nine large areas within the city that currently provide substantial wildlife habitat. Some of these are privately owned, some are in public ownership and others are a mixture of the two. These areas are shown on **Map# 5** and are listed below:

The numbers correspond to the numbers representing these areas on Map # 5 Wildlife Habitat Areas and Corridors.

#	General Location of Wildlife Habitat Area	Ownership	Type of Habitat
1.	Desert	Public/non-profit	Scrub Oak, Pitch Pine and Red Pine forest, ponds, marshes, and pristine cold-water streams
2.	Mt. Ward/ Ghiloni Park	Private Public	Mixed woods/wetland/streams/open field at treatment plant/recreational fields
3.	Sudbury Reservoir/ Callahan State Park	Public	Open water/marshes/pine & deciduous forest
4.	Millham Reservoir	Public	Open water/streams/marshes/pine & deciduous forest
5.	Millham Brook	Private	Stream, woodland, wetland/marsh
6.	Flagg Swamp	Private/public	Large marsh, deciduous forest, pristine

		cold water stream
7. South St. Swamp	Private/public deciduous forest	Two hills, large marsh, stream, pond,
8. Jericho Hill	Public	Open field, wooded area, stream and perched wetland at top
9. Assabet River Corridor	Private cold water stream	Large marshes, deciduous forest, pristine
10. Cider Knoll/Mello Farm and open field	Public	Stream, rocky outcrops, pond, wetland
11. Holts Grove/Stevens St. Red Spring Road	Private/public	Streams, woodland, wetlands
12. West Hill Rd	Private	Hill, tree farm mixed woods.

These areas represent the last contiguous combinations of woodland, lakes, streams, fields and swamps in the community. Those properties, which remain in private ownership, should be considered priority parcels in the city for acquisitions and/or preservation of wildlife and greenway corridors.

The following wildlife inventory is not exhaustive and simply illustrates the diversity of wildlife and wildlife habitats within the community. Species diversity is greatest in areas where combinations of habitats occur and where tracts of land are contiguous and large. The wildlife observed are those common to the central part of the state.

1. Wildlife Inventory

Mammals: The largest known wildlife species inhabiting Marlborough is the white tail deer, although there have been periodic sightings of bear and moose on rare occasion it is not likely that they are breeding here. Deer have been spotted throughout every portion of the city with the possible exception of the central business district. As development continues in the city these animals are being forced to those protected areas of forested land. The healthy deer population has also given rise to the migration of coyote that now inhabit much of the Millham Reservoir watershed, Cider Knoll, and the Desert area. Bob cat have also been sighted.

Other mammals indigenous to the community include red tail fox, woodchuck, raccoon, skunk, gray squirrel, chipmunk, red squirrel, bats, porcupine, fisher cats (in the weasel family), river otter the cottontail rabbit and an abundance of beaver.

Fish: Marlborough's rivers, streams and reservoirs provide suitable habitat for a number of fish species and ample opportunity for open water and ice fishing. The community's previously mentioned surface water impoundments contain pickerel, large and small mouth bass, and in certain tributaries native brook trout. In fact Marlborough lays claim to two of only three native brook trout streams in Central Massachusetts. The beavers have made some radical changes to both these streams but brook trout are still thriving in both.

Birds: The city's diverse habitats are home to a wide variety of common bird species and include: Cardinal, mourning dove, downy woodpecker, nuthatch, tufted titmouse, English sparrow, house wren, Baltimore Oriole, barred and barn owls, jonquil, chickadee, mockingbird, purple finch, robin, goldfinch, flicker, blue-jay, wild turkey, grouse, pheasant, woodcock, oven bird, cat bird, rufous-sided towhee and cuckoo have been observed in Marlborough. Warblers migrate through the city in their spring and fall migrations. Ducks and water birds include: Blue Heron, pie billed grebe, cormorants, mute swans, Canada geese, ruddy duck, buffleheads, common mergansers, mallards, wood ducks have all been seen living or migrating through at many of the city's lakes and ponds. Many hawk varieties, including red-tailed and broad-winged hawks, are common sightings. More rare have been the sightings of a pair of bald eagle on a few occasions fishing at Lake Williams, Hager Pond and Sudbury Reservoir. A nesting pair may have found home in the region however this has not yet been confirmed. At one of the city's larger conservation area the reclusive goshawk has been seen nesting over the years.

2. Corridors for Wildlife Migration

As shown on **Map #5**, the wildlife corridors follow the parcels of undeveloped contiguous land and streams. These corridors should be preserved in their entirety wherever possible to help maintain a healthy diversity of wildlife species. Where full protection is not feasible, developments should be designed to allow some portion of the corridor to exist undisturbed. Roads and development tend to inhibit migration of smaller mammals and amphibians, which are either prevented from migrating due to these obstructions, or are killed en-route. The more natural the corridor, the more likely the corridor can serve as a wildlife travel way for many species. The Natural Heritage and Endangered Species program through their aerial photography have identified 80+ potential vernal pools. Vernal pools are habitat to species that use these temporary pools for breeding, including wood frogs, mole salamanders, fairy shrimp to name a few. Of these potential vernal pools identified by the state, 15 have been certified, 3 have been investigated but found not to be vernal pools, and the remainder need to be investigated to determine if they are vernal pools. With greater development pressures these important pools, which are not always protected under the Wetlands Protection Act, will be lost and their importance to biodiversity within the area will also be gone forever. A map of these vernal pool and potential vernal pool locations is shown on map # 5

3. Rare or Endangered Species

The Natural Heritage and Endangered Species program has identified two area in the city as a protected habitat for endangered species. To protect that species from exploitation, the Committee has chosen to provide only the general location, which includes a small section of land off Haze Memorial Dr., a tiny corner of land off River Rd. on the Berlin town line, and a finger of wetland on the Sudbury boarder next to the Desert Natural Area. In addition the community has successfully identified and certified 18 vernal pools since 2010, and have noted the existence of 5 or 6 more which will be certified in the coming years. These areas are shown on the Priority Habitat and Estimated Habitat maps provided by the Natural Heritage and Endangered Species program dated Oct. 1, 2008

F. Scenic Resources and Unique Environments

1. Scenic Resources

Marlborough is fortunate to have many scenic locations and several areas of unique environment. Areas in Marlborough that are "noteworthy" from a scenic quality perspective are the landscapes around Sudbury Reservoir, Millham Reservoir and the Assabet River. Many other locations throughout the city provide wonderful views and perspectives due to their elevation, open water and open fields. These scenic areas comprise both publicly - and privately - owned properties (see Map #3 Landscape features). These locations with their respective viewshed are listed below:

Location	Viewshed	Ownership
1. Jericho Hill	Sudbury Reservoir looking northwest	public
2. Farm Hill	Sudbury Reservoir looking south	private
3. Spoonhill	Wachusett Mt. looking northwest	private
4. Addition Hill	Ft. Meadow Reservoir looking north	private
5. Fairmount Hill	Points west of Marlborough	private
6. Sligo Hill	Points west of Marlborough	public
7. Lake Williams	From Rt. 20 and Williams St.	public
8. Hager Pond	From Rt. 20 wayside country store	private
9. Sudbury Reservoir	From Farm Rd. and Sherman Rd.	public
10. Mt. Ward	From Rt. 20 up the hill	public
11. South Street	Over looking Shoestring Hill & farms	private
12. West Hill	Houde's Tree farm- view to the west	private

Other scenic areas include the 22 scenic roads designated under the scenic road ordinance. All of these roads are somewhat narrow, tree-lined, and many still have remnants of stone walls, providing a scenic drive and country feel. The trees and stone walls are protected by the Scenic Road Act and may not be removed without a public hearing with the Planning Board and Tree Warden.

Among the areas of unique environment are the unique geological features including the outwash plains which created Sudbury Reservoir and Callahan State Park, Lake Williams, Millham Reservoir and the Desert Conservation Land, the wetlands and hills and stone outcrops that create nice features at the Cider Knoll, Ghiloni Park areas; and the glaciers which created the drumlins of Jericho Hill, Shoestring Hill, Indian Hill and several others throughout the city which are discussed in more detail in Section 7. In addition the city has 7 conservation areas and 24 recreation facilities that provide scenic views of fields, hills, lakes and woods as well.

2. Cultural, Historic and Archeological

Boston Post Road (Route 20), is part of the historic road network from Boston to the Connecticut River. This route in Marlborough in the 1800's was lined by apple orchards and dairy farms, which, along with shoe factories, were the primary commercial operations in the city. Most of these farms have been replaced by businesses, residential developments, and office parks.

Lake Williams is the only true natural lake in the city and historically was a focal point for recreation. Before the settlers used this lake it was a gathering place for American Indians. However, today it is an important part of the city's water supply and no longer a recreational

resource.

Two historic districts have been established in the downtown area of the city. The first was established in 1996 as recommended by the Historic Commission and is a very small Local Historic District known as Monument Square which includes the area around the monument near the main library on Main St. up Mechanic St. to Lincoln St. This district was established under the local historic district MGL Ch. 40C. The second district is the Marlborough Center National Register district, which includes Main St. from the Library to the Old now renovated Fire station office building. The Historic Commission has also compiled an inventory of all historic properties within the city. All historic properties including houses, cemeteries, and landscapes have been documented and inventoried. The inventory is thorough and provides important documentation of these historic sites, however there are no rules or ordinances local or state, which currently provide protection to any of these structures. The hope is that as people realize the historic values of these properties, they may be more willing to help protect them. Historic structures help to provide a sense of history to any community and lend their character to the community.

In 2003-2009 the Historic Commission worked with volunteers to inventory all the headstones within the historic cemeteries in the city. This data is now stored with the Historic Commission.

Due to local small business efforts in 2012, downtown Marlborough was recognized as a Cultural District in Massachusetts- one of only 14 districts awarded this distinction during the first year of the MCC Cultural Districts Initiative.

3. Area of Critical Environmental Concern

The city does not have any Areas of Critical Environmental Concern.

G. Environmental Challenges

Marlborough's environmental problems are typical of most communities in Massachusetts. Over the years, the city has dealt with several hazardous waste issues ranging from leachate control at its' closed and capped sanitary landfill on Hudson Street, to the all-too- frequent gasoline and oil releases from gasoline stations and other storage facilities. Environmental concerns such as storm water and wastewater discharge, erosion control and air quality are dealt with on a case-by-case basis through the community's Board of Health, Fire Department and site plan review process.

Loss of Open Space, including woodland and farm land, creates higher concentrations of wildlife closer to our neighborhoods. This over the years will become a greater challenge, as animals such as coyotes and other animals become better adapted to these neighborhoods. We expect more conflicts with: coyotes, deer, raccoons, skunks, possums and other shyer creatures that will adapt over time to humans as their habitats are reduced in size. Keeping corridors between larger open spaces can serve to allow areas where these animals can travel. Education of residents about the best ways to live with wildlife will be an increasing step towards helping to balance these conflicts as well as encouraging the purchase of open spaces for protection.

As Marlborough becomes a greener community with more energy efficient homes, alternative –

environmentally friendly energy sources, conserves on water and fuel use and improves its recycling rates, it will also be friendlier to the overall environment.

Hazardous waste sites:

One area of the community identified by DEP as contaminated at numerous locations is lower Maple Street. This area has been zoned for commercial and automotive use for many years and for many of those years there has been insufficient monitoring of the underground, and in some instances, above-ground storage facilities in this corridor. New detection techniques and monitoring practices have enabled the community, working with DEP and other state agencies, to identify several known sources of contamination in this area. Short-and long-term remediation plans have been developed for those identified sites and remediation is now under way. Although the state is responsible for oversight of the cleanup procedures on all of these sites, some oversight and review by the local Conservation Commission and Fire Dept. to ensure that the cleanups do not lag forever would be helpful in ensuring full cleanup of these areas within the next 10 years.

Old Landfill:

Another area of environmental concern is the former site of the city's sanitary landfill on Hudson Street. Although all of the problems discovered at this site during the early 1980's have been corrected, it is absolutely critical that the community continue to monitor this site for any evidence of leachate and slope erosion. Fort Meadow Reservoir abuts the landfill to the north and would be immediately impacted by a leachate release or soil erosion. Keeping the landfill cap free of large trees is also important to maintaining the integrity of the clay cap that encapsulates the landfill. Any reuse of the landfill should work to improve the environmental issues associated with any old landfill site. Creating an open field free of trees to provide habitat to butterflies, dragon flies and many bird species that need open fields would be another habitat improvement and amenity to this area.

Ft. Meadow Reservoir:

In 1999, the majority of street drainage draining off of Bolton St. was diverted into the detention basin at the base of the old landfill. This has allowed for the water to be filtered before discharging into Ft. Meadow Reservoir. By evidence of the annual sand removal at the detention basin this diversion has eliminate a large amount of street sand away from Ft. Meadow Reservoir, which historically had accumulated in front of the city's boathouse on Reservoir St. Ongoing diligence in cleaning catch basins around the lake and educating residence within the Ft. Meadow Reservoir watershed has been put in place and must continue in order to ensure the long-term good health of the lake.

In 1999, Eurasian Water milfoil was discovered in Ft. Meadow Reservoir. This invasive, non-native weed can have a devastating effect on the ecological balance of the lake as well as the recreational value. Other communities throughout New England have grappled with ways of controlling this weed, which left uncontrolled will overtake a lake within a matter of a few years. Over the past 11 years the city has hired consultants to do lake herbicide treatment to control the weeds. Continued diligence with identifying weed growth within the lake will be critical in keeping the weed growth in the lake under control. (see section 7 for more details on needs)

Assabet River & Hop Brook:

The Assabet River and Hop Brook systems are both experiencing excessive growth of weeds, known as eutrophication. Both receive treated discharge from the city's two wastewater treatment facilities, are the recipients of large amounts of untreated urban runoff contributing nutrients, as well as man-made dams which impede the natural flushing of nutrients within these impoundments. The Assabet River Consortium had been looking at ways that all communities with waste water treatment plants, along the Assabet River can work together and improve water quality and down stream base flows within this river. Recent discharge permits for both of the City of Marlborough's sewerage treatment plants from DEP and EPA require significant upgrades to both of the city's sewerage treatment plants to meet more stringent discharge standards. These new standards have been set to help reduce phosphorous loading to the receiving water bodies in an attempt to help control weed growth. The city will need to continue to work with the adjacent communities and the State DEP and Federal EPA in years to come to ensure protection of both river systems.

Millham Reservoir and Lake Williams:

There is a real threat to the city's local water supply every day. Rte. 20 runs directly along the shores of Lake Williams. Currently there are little or no drainage controls within this stretch of roadway, which could help control a spill from any number of petroleum, industrial chemicals, or auto-accident spills. Of high priority should be the redesign of this section of the roadway to improve the drainage system including emergency spill containment facilities. These measures will help to ensure the control of water quality impacts of Rte. 20 into our drinking water supply. In addition more education to all residences and businesses within the watershed needs to be provided to ensure that no one is dumping illegal substances, including lawn fertilizers and car oil down the storm drain system of this watershed, and throughout the city.

Stormwater, Erosion and Sedimentation controls:

In 2009 the City Council passed the Stormwater Management Ordinance which will be instrumental in helping control erosion throughout the city not just projects adjacent to wetlands. This new ordinance will ensure better oversight of all construction projects and ongoing maintenance of stormwater system controls on both public and private properties. All erosion that enters a drainage system, has a potential impact on the water quality of our streams and ponds. The cumulative impact of sedimentation from many small projects, can over time have a devastating affect on a wetland resource area, causing lakes and ponds to become wet marshes rather than open water areas. To keep our ponds and streams pristine the diligent enforcement and follow through of this ordinance will be critical to helping improve the quality of the city's rivers, streams and ponds.

Chronic Flooding: Marlborough is the headwaters to most streams leaving the city and it's tributaries flow into the Sudbury, and Assabet River systems, through the Sudbury Reservoir, Ft. Meadow Brook and Hop Brook respectively. As such there are only a few areas in the city where chronic flooding occurs either because of the river over flowing as occurs along the Assabet River at Boundary Street, or in situation where the development has out-paced the drainage system which is now inadequate at the intersection of Glen Street and Millham Brook. Other areas such as Maple Street near South Street Brook, at Rte. 20 and Mowry brook parking lot and on rare occasions Rte. 20 at Hop Brook will overflow its banks. Other street flooding issues have occurred when the storms have overwhelmed the drainage system and caused localized flooding on city streets. Other than these areas, flooding hasn't been a major concern

for the City as a whole. However with the increase in storm volumes and intensity as a result of global warming, the city is beginning to see more flooding

Forestry issues

The City manages several large tracts of forested property including the Millham Reservoir watershed land, Lake Williams Watershed land, Desert Natural Area conservation land, and Mt. Ward and adjacent Cemetery land. The city has developed a Forest Stewardship Plan for the Desert Natural Area, and is in the process of discussing plans for the city's watershed land as well. These plans allow the city to know the resources they have and provides recommendations on how to best manage it for the desired need- wildlife, watershed protection, forest health, fire prevention etc.

The recent scare of Asian Long Horn Beetle infestations in Worcester and the Emerald Ash Borer and winter moth infestations being found in other parts of Massachusetts, have put both the Conservation and DPW parks Dept. Tree warden on the alert to watch for these pests. The invasion of invasive plants such as oriental bittersweet vines, glossy buckthorn and phragmites has also created new tasks and projects for staff and volunteers alike to help maintain the city parks and open spaces free of these plant invaders that are choking trees, and displacing native plants. As noted on **page 28** above the city is participating in a regional effort to work on early detection and eradication of these pest and plant invaders, in hopes to keep them at bay and find logical cost effective ways to identify where efforts can be made to help control these invasives.

The city is also talking to DCR about their State Forest and State Watershed Land to ensure that the management of these properties is in keeping with the adjacent properties the city owns.

Environmental Equity:

The Committee looked at the Environmental Justice (EJ) Community maps for the city of Marlborough included as **Map #11** http://maps.massgis.state.ma.us/map_ol/oliver.php There are quite a few recreation facilities within walking distance to the EJ community. These parks, open spaces and recreation facilities include: Lake Williams Ball fields and walking trail, Ward Park, the Assabet River Rail Trail, High school fields, Kelleher field and playground, and the Stevens Park recreation facility. The location of these facilities are superimposed on the EJ map for easy reference on **Map #11**.

This environmental inventory provided the basis for evaluating the needs analysis discussed in section 7.

SECTION 5

INVENTORY OF LANDS OF CONSERVATION AND RECREATION

Open Space Inventory Matrix

The open space inventory was compiled into two maps and corresponding spreadsheets. The first map, **Map # 6 titled Open Space Plan-Protected Land**, identifies all land which has already been protected either by state, local or private entities. These are parcels which are legally protected by state and or federal statute and therefore cannot easily be subject to adverse development and all park and conservation lands are considered permanently protected open space. We have also included watershed land and land managed by the DPW and schools to show other city owned land that has been protected as well. Each parcel is labeled and the corresponding data on each parcel is provided on the “Protected Land” spreadsheet below.

*Note that a full title search on these parcels was not done, deeds were checked in most cases to see how they were acquired and for what purpose. Further investigation will be needed to confirm level of protection, but in general these parcels are being managed for the purpose listed and from our initial deed search are protected as noted on the following “protected land” spreadsheet.

The second map, **Map # 7 titled Open Space Plan – Unprotected Land**, identifies all land which is undeveloped as of the writing of this plan, or only partially developed land which is significant to open space protection either on its own or as it provides a link or connection to adjoining protected or unprotected parcels of conservation or recreation interest. Again each parcel is labeled and the corresponding data on each parcel is provided on the “Unprotected Land” spreadsheet.

The following are the keys to the labels used on the following spreadsheets and on the Maps:

Map Label - The letter and number label on Maps # 6 and Map # 7 are as noted below:

MC – Municipal Conservation – These are grouped together on the spread sheet and are managed by the conservation Commission

MP- Municipal Park- These are grouped together and are managed by the Recreation Dept.

MCEM- Municipal Cemetery- These are grouped together and are managed by DPW forestry and cemetery

MU- Municipal Other – these are managed as noted

MW- Municipal Watershed Land- these are managed by the DPW Water Dept.

PP- Private Protected property (these are protected through conservation restriction or by

a local land trust)
SP- State Park
SW- State Watershed Land

Parcel ID on Map - Corresponds to the number beside the letters on the map and the spreadsheet.

Site /Location Provides the name and location of the open space site

Assessors Map-parcel Indicates the assessors Map and Parcel Number

Acreage Acreage of the parcel or parcel(s) if several are combined in one area

Owner of Record/ Who manages Name of entities who own the parcels and the agency/department responsible for management of protected parcels. For the unprotected parcels this indicates the owner of record as found in the assessor's office database.

Zoning Describes in which land use zone the parcel is located.

Degree of Protection Describes how it is protected; if high then the parcel is permanently protected through the deed for either conservation or park purposes and is protected under Article 97, and how it was acquired; Low- is protected by being city land, but not permanently protected by deed for either parkland or conservation purposes. (Please note, this was an initial review of the deeds for these parcels, but may not be completely accurate, more title information is needed to confirm this status if action is to be taken on a parcel. There may be old documents from city council orders that need to be reviewed to determine if a parcel was designated for conservation or park purposes. Even these parcels may need the additional deep protection to make them protected under Article 97 if that is the goal.)

Condition Indicates the condition of the property. Excellent/Good indicates it is in good shape not needing much attention; Fair/poor indicates that the property could use some attention as described more fully in section 7 and 9.

Public Access/ Handicapped Accessibility This column indicates if the parcel provides public access, which is either Yes or No. Then after the / it indicates if the property has been adapted to be handicapped accessible Yes or No.

Recreational Potential This column indicates if the parcel has recreational potential either for passive recreation or active recreation if either column says "Yes". In some cases a parcel may be noted as yes but have not trails or facilities yet, but it has the potential to provide in the future. "No" indicates there is no recreational potential to the property in cases where it is all wet or too steep etc.

How Acquired The funding mechanism used in the acquisition of the protected parcel, where available, is provided. Where the list says "unknown" no list of funding mechanisms used to acquire the land was found and deed search needs to be done to fill

in the blanks.

Comment: Provides a bit more information about this site to help identify it, and what value it might have to the community.

Several items on this inventory need the following clarification:

■ **Parcel Management**

There are a few of parcels of land, which through the inventory gathering process were found to be municipal parcels (shown as MU# on the protected land map) for which no city department has ever officially designated to manage the property, and other cases where one department is managing land when in fact the acquisition and deed indicated that another department is to be the manager. These parcels are highlighted in the matrix as: MU# and Manager- undesignated. A dialogue with city land manager departments and then a recommendation to the City Council to vote to designate parcels for specific purposes should be done to clarify the records and ensure that the best use of these parcels is provided. On parcels that have low designation, the Conservation Commission and Recreation Department should review these parcels and make recommendations to the city council if there is a desire to protect these parcels in perpetuity for either Conservation or Park land.

■ **Unprotected Land of Conservation and Recreation Interest**

The list of unprotected land includes a comment section which is intended to be used to note when parcels change hands, are developed or acquired. The Conservation Commission/ Open Space Committee should be charged with keeping this list updated. This will be useful when the plan is updated in the next seven years.

Please find on the next pages the two excel spread sheets titled:

“Unprotected Parcels” and “Protected Parcels” which shows this information.

Community Vision Statement:

The overall goals for this plan are to:

- Preserve the unique natural resources and character of the city.
- Educate citizens about the benefits of these natural resources.
- Provide adequate recreational opportunities for the community.
- Increase the open space parcels protected in the city.
- Connect open space and recreational resources through walking and biking trails.

The ideal open space and recreation system for the community would include the following:

1. Create an action plan with measurable results and a process to promote and review progress.
2. Protect and enhance the city's natural resources- air, water, land, and provide connectivity among them for both people and other living things.
3. Protect the biodiversity of local plants and animals while maximizing passive recreation for people.
4. Provide quality recreational facilities and adequate recreational opportunities for all city residents for both passive and active recreation.
5. Preserve the character, historic, and cultural resource of the community.
6. Provide connectivity among all open space parcels – parks, conservation land, school system, wildlife corridors, and trails throughout the city and with adjacent communities.
7. Promote and develop regional open space and recreational opportunities, especially through the connectivity of walking and biking trail systems.
8. Engage community citizens in preserving and maintaining open space, recreation and natural resource areas throughout the city.

SECTION 7

ANALYSIS OF NEED

The Open Space Committee generated the following analysis of needs from the results of the 2009 survey and information gathered from the various boards and committees represented on the Open Space and Recreation Committee. This section summarizes the major open space and recreation needs as defined by the survey and this group. These needs are divided into the following categories:

- A. Summary of 2009 Open Space and Recreation Survey
- B. Summary of 2006 SCORP – state open space plan recommendations for the Marlborough area
- C. Summary of Natural Resource Protection Needs
- D. Summary of Community Needs
 - 1. Parks and recreation
 - 2. Conservation
 - 3. Community connections
- E. Management Needs, Potential Change in Use

A. 2009 Open Space and Recreation Survey Summary:

In March 2009 the OSRC posted the ‘Open Space and Recreation Survey Marlborough MA’ on the city Conservation Commission web site and on the main City of Marlborough web site. Notification on the availability of the survey was given through the local newspapers and by the OSRC members to 44 separate civic associates, clubs, neighborhood organizations, boards and commissions and business groups (a list of these groups can be found in Appendix B-1). Residents were asked to take the survey on line, but could also send them in paper form where they were entered into the computer. The survey was developed through the Survey Monkey program. A copy of the survey and the results from the survey can be found in Appendix B-2 & B-3. 272 people responded to the survey. The results of the survey revealed the following:

- Most residents indicated they wanted to see more open space protected for conservation and recreation purposes. Remaining land should be protected from development to protect the character of the city and quality of life.
- The majority of the residents felt that the recreation and athletic facilities were adequate and being well managed and maintained. However, there were comments regarding the needs to upgrade some of the facilities and fields. These have been incorporated in this report. There was also a high interest in having a local pool and more indoor facilities.

- Conservation land and walking trails were seen as being adequate, but good suggestions about trail maintenance, signage and publicity about these resources were provided and have been incorporated into this report. In addition more areas to walk and enjoy the outdoors were noted.
- Regarding the protection of wetlands and waterways, the majority of comments indicated the need for more education to let people know where these resources are and what residents can do to help protect these resources.
- In response the question about “places in the city you would like to see protected or preserved or developed into a park or conservation land” 124 people had ideas. The top priorities were:
 - Protection of Spoonhill water tower for trails and wildlife protection.
 - the protection of Mauro Farm on Cook Lane,
 - upgrade of existing facilities where needed
 - the development of the Old Landfill on Bolton St. into a park like Ghiloni Park with recreational fields and facilities.
 - Indoor pool and indoor facilities were also top on the list of needs
 - synthetic turf fields to extend field playing time through the seasons.
 - Improvements to existing field management, was also noted as a recreational need.
 - Protect large parcels of open space including Shoestring Hill and West Hill.
- 43% and 46% of responders indicated a willingness to spend more money to upgrade or expand recreation facilities and to buy open space to protect it from development respectively. Compared to 16.7% who indicated the right amount was being spend on recreation and open space; and 1.25% who indicted that the city is spending too much money on open space and recreation. Based on this we can determine that there was an overwhelming response indicating open space and recreation are high priorities for residents of Marlborough.
- People indicated a willingness to volunteer to help out various projects, which was an encouraging result. 56% of responders said they would help out with Clean Sweep the annual city wide cleanup.

The results of this survey with a summary of all the answers, is provided in Appendix B-3.

B. Summary of 2006 SCORP Recommendations- for the Marlborough Area

The state wide 2006 SCORP revealed that the Northeast region, (to which Marlborough belongs in this report), is in need of more bikeways and bike trails and clean lakes and ponds, that this region is doing well with golf courses, neighborhood parks and playgrounds. It also states that the highest satisfaction was reported in the categories of historic and cultural sites followed by wildlife conservation areas. In addition there was a high priority for communities and the state to focus on the maintenance of existing park facilities, including improved maintenance of trails and greenways. High support was also given for new land and park acquisitions. The policies

and recommendations included in the SCORP plan were listed as follows:

- Resource Protection, Stewardship, restoration and enhancement
- Education and Information
- Partnerships
- Funding
- Access for all users including the disabled
- Maintenance of existing facility
- Improve urban parks
- Long distance trail protection and development

In reviewing the SCORP it was reassuring to see that many of the policies and recommendations outlined, are also being addressed in the needs analysis and recommendations being made in this Open Space and Recreation Plan for Marlborough- the city has stepped up to the plate on all of the policy areas noted above, including: developing partnerships with abutting communities and businesses and land trusts in the region to maintain trails and develop interconnected trail systems; and maintaining our parks and conservation land and establishing a landstewards and resource education program. Over the past years the city has upgraded all its playgrounds so they are ADA accessible, and have new and improved equipment. We are working on an inter- and intra- community trail system with neighboring towns and support the Bay Circuit trail which is a regional trail that runs through a small portion of Marlborough. We are excited about the prospect of using old MWRA aqueducts to enlarge trail systems in neighboring communities. This plan addresses most of the policies and recommendations identified in the SCORP as noted in the needs assessment below and the action plan outlined in Section 9.

C. Natural Resource Protection Needs

Marlborough's Natural Resource Protection needs can be separated into three general categories;

- water resources,
- wildlife habitat protection, and
- Trails and greenway corridor enhancements

These categories are detailed below.

I. Water Resource Protection

Rivers, streams, lakes and ponds throughout the city are facing the threat of pollution as the community becomes increasingly urbanized. Several streams are still pristine, with water sufficiently cool and clean to support native brook trout. Listed below are each of the major water resources in the community with their corresponding water quality problems and recommended actions to protect its water quality.

Lake Williams and Millham Reservoir

These two reservoirs provide approximately 30 % of the city's drinking water, during wet years it can supply significantly more water for the city and yet there are only a few controls in place to protect or otherwise maintain the water quality in each of these reservoirs. The huge steps taken in the past have been the acquisition of several large tracts of land adjoining Millham Reservoir for watershed protection; however there is still significant potential for contamination of both reservoirs from continued development within the watershed draining into these water bodies.

The development of impervious surfaces and landscaped areas, and accidents on existing roadways can all pose threats. The following additional protections for these critical areas should be implemented.

The Water Supply Protection District (WSPD) ordinance, passed in 1997 provides some restrictions to new development and redevelopment of existing lots within the drinking water watershed area. Over time as areas are developed and redeveloped, systems to improve water quality from parking lot runoff and roadway runoff are required to be installed. The recommendation is to ensure full enforcement and better education of this ordinance to ensure long term improvements within the watershed. Some key features of the ordinance are as follows:

- Elimination of all direct untreated discharges of stormwater runoff to the reservoirs and their main tributaries;
- Reduces the impervious area allowed within each zoning district.
- Prohibits uses that are hazardous or pose potential hazards to the water quality.
- Requires a 50-foot no disturbance buffer zone along all wetland areas.
- Requires the use of best management practices and maintenance schedules as outlined in the State Stormwater Management Policy for all new stormwater discharges and the local Marlborough Stormwater Ordinance.

In addition to the implementation and enforcement of the WSPD and Marlborough Stormwater Ordinance passed in 2009 the following items also need to be addressed in order to have better control over the longterm water quality of both reservoirs

- Identification and elimination of all direct untreated discharges of stormwater runoff to the reservoirs and their main tributaries
- Request from the Mass. Highway Dept. a reduction of road salt on sections of Rt. 20 and I-495 that drain into this watershed. When road improvements are proposed for either highway, improvements to the stormwater drainage system that would improve water quality must also be requested and required.
- In 2008 a strip of land between Rte 20 abutting Lake Williams and Old Lakeside Ave was acquired for watershed protection purposes and to improve the appearance of this entrance way to the city from I-495. Now with the ownership of this parcel the city can work with the Highway Department in the DOT to institute improvements to the stormwater drainage system. Currently if there were to be an accident at this location along Rte. 20 all drainage would drain directly into Lake Williams causing the city to shut down this section of the reservoir. A containment system within the roadway which can capture contaminants before they enter the Lake would be very helpful in the long term plan for protecting Marlborough's water supply. This is a high priority item.

- Acquire or protect in some way the land between Glen St. and Rte. 20 through which Millham Brook travels. This is a limited industrial zoned property owned by the Gutierrez Company. Because it is a parcel critical to the protection of the Millham Reservoir it needs to be protected in whole or in part. Any development of this site must be designed to the highest standards to minimize any impacts to water quality.
- Acquire or protect in some way the agricultural fields on Williams St. These also drain directly into the Millham Brook system.
- Ensure that the Marlborough Fish and Game property remains in open space status if this is to change the acquisition or protection in some way of this property will be a high priority for watershed protection purposes.

Sudbury Reservoir

Sudbury reservoir is a backup drinking water supply for the metropolitan Boston area. The land is controlled by the Department of Conservation Recreation (DCR) (formerly MDC) and the water is managed by the Massachusetts Water Resources Authority (MWRA). Recommendations to help support the protection of this water resource area are as follows:

- Continue to work with local nurseries, and golf courses to encourage the use of Integrated Pest Management as part of their lawn maintenance practices.
- In November 2008 the city volunteer Stream Team inspected the streams which flow into the Sudbury Reservoir. The stream carrying the most water from the center city was identified as Walker Brook. The pipe outlet at Florence St. flows with some force during large storm events carrying plastic bags, lots of sand and other debris through the brook system and finally into the reservoir. An inspection of this watershed within the next few years to determine if there are any systems to install or best practices to implement to improve this street condition is recommended.
- Work with DCR to develop a preliminary design of modifications that can be made to the Marlborough filter beds to re-use them for detention and settling. Other alternatives besides simple removal of sand and soil and blocking under drains may also be available, but cost will be a major consideration. Maintenance considerations should also be a key to preliminary design considerations.
- Work with DCR to remove the accumulated sand at the Walker St. culvert which enters the filterbed system. Over the years this area has filled in considerably and should be removed for water quality as well as flood capacity reasons.
- Begin monitoring the pre-filter bed water quality prior to construction, during construction and post-construction so that the effectiveness of the use of these

filter beds can be tracked and modifications can be made.

- When upgrading roadways within the watershed, the city and Highway Dept. of DOT will need to implement best management practices for stormwater management on these roadways, as was done in 2002 for Farm Rd.
- Institute reduced road salt practices throughout the Sudbury Watershed area.
- Work with the Horse Farm on Farm Rd. (n/f Magee) facility to encourage manure management and horse use in paddocks that is also protective of water quality. Muddy paddocks and manure piles too close to the brook feed nutrients into the stream system and ultimately into the Sudbury reservoir.
- In addition in discussion the Conservation Commission has had with DCR watershed division some work to make the filterbed area safer for walkers was recommended.
- Acquire or protect with easements properties within the Sudbury Reservoir Watershed including:
 - Gulbankinan Fields- encourage ongoing open field use, encourage application into Ch. 61A property status for long term protection
 - Magee Farm land- encourage open field use and management
 - South Street Swamp and Shoestring Hill
 - Rousseau property off Parmenter Rd.

Ft. Meadow Reservoir

Marlborough's only public recreational water body which still has very clean water and is a great recreational assets to the city. As with other water bodies in an urbanized area it experiences elevated levels of nutrients and solids loading throughout the year due to numerous street drains that discharge directly into the lake. This increased nutrient loading helps to feed the growth of weeds which has been a problem over the past 10 years. A short history of the problems and solutions follows

In 2000 a study was done by a consulting firm ENSR to determine if the unsewered section of Red Spring Road could be the cause of the nutrient loading. It was determined not to be, however the Board of Health has been working with many of the homeowners along the lake to upgrade the old septic systems that used to dominate this section of the shoreline. Over the last five years four septic systems were replace as buildings were upgraded or changed hands.

In early 2000 the city hired a consulting firm to study the lake weed problem. In 2002 the lake was treated for the first time in many years, with an herbicide called Reward (active ingredient diquat) to control the invasive non-native plant called Eurasian Water milfoil. Since then spot treatments with Reward have been done throughout the lake to help keep the weeds in check. Treatment was performed in 2005, 2006, a more widespread treatment was done in 2008. In 2008 during the weed survey in addition to Eurasian Water milfoil being detected a new invader Fanwort (*Cabomba caroliniana*) was also detected. By fall of 2010 the spread of Fanwort was

even more prominent in the northern basin along the Hudson border. Because any treatment cannot remove all pieces of invasive plants, and because these plant particles and seeds are transported by boats and birds, ongoing monitoring and spot treatment of invasive weeds will be an ongoing management need of the lake. Annual funding is essential. Spot treatments are much less expensive than lake wide treatments.

During the winter draw downs the city's DPW has been able to remove large amounts of street sand which had deposited at the end of the storm drains in the lake. There are 18 discharge points into the lake. This is a very important step to helping remove sediments and nutrients from the lake and has been very successful. It is done when weather conditions permit during the drawdown period of Oct.-Feb. approximately every three years. This program should continue.

Recommendations for ongoing protection of Ft. Meadow Reservoir are:

- Replace storm drain markers and door hanger distribution program around the Ft. Meadow Watershed to continue the education effort.
- Work with DPW to continue the street sand removal program at the end of all storm drains discharging into the lake during the lake drawdowns.
- Make sure ongoing monitoring of weeds continues annually. The Conservation Commission and Ft. Meadow Commission should continue to work together. Treatment at early stages of weed growth is much cheaper. It is recommended that the city contract with a consultant for multiple year contracts in order to have some continuity on monitoring this program. If a dedicated volunteer group can take over that would be great, but has not materialized.
- Educational fliers should be sent and workshops should be held for lake owners and land owners within the watershed to educate landowners about "lake Friendly" lawn care and land use practices. The OAR workshops at The Grove beach area and city flier's distribution should continue.
- Ongoing education at the boat launch to all boat launch users about cleaning boats and water craft before entering and upon leaving the boat launch area, to prevent re-infestation of weeds into the lake is necessary. Boat launch staff must be educated every summer and be diligent about weed education and removal.
- Acquire the remaining parcels of land surrounding Ft. Meadow Reservoir for passive recreation and watershed protection purposes.
 - Morse Property remaining acres not developed between Worster Dr. and Cullinane Dr.
 - Parcel next to The Grove which is land locked.
 - Finalize transfer of Commonwealth of Mass Highway land to the Dept. Of Fish and Wildlife which includes Flag Swamp

Hager Pond

This privately-owned pond serves as the backdrop for the historic Wayside Inn Country Store, like Sudbury Reservoir and Fort Meadow Reservoir, Hager Pond experiences elevated nutrient and solids loading due to surface water runoff from Rt. 20, adjacent impervious areas and discharge from the Easterly Wastewater Treatment Plant, just upstream. During the summer months, excessive algal blooms and weed growth become a problem. The following recommendations were made for Hager Pond.

- When improvements are made to the Rte. 20, the storm drains discharging into Hager Pond should be retrofitted or replaced with larger sumps and oil separator units so that runoff water can be treated before being discharged into Hager Pond.
- The city should continue to work with EPA and DEP on the Easterly Wastewater Treatment plant facilities planning for present and future needs. A permit is anticipated in 2010 which will require greater reduction of nutrients and costly upgrades to improve water quality to Hop Brook.

Small Ponds

There are several small ponds throughout the city, which deserve mention: Cider Knoll Pond, Muddy Pond, and Howe Pond. All are quite clean and contain abundant wildlife. Any new drainage discharges to any of these ponds should be carefully sited to ensure that they are kept clean. In addition all existing discharges should be identified and inspected to ensure that there is no sediment buildup from street drainage. This will extend the life of these wetlands and limit the speed at which eutrophication (excess growth of weeds due to nutrient loading over time) occurs.

Once again, it is critical that all efforts be made to implement appropriate best management practices to control erosion and stormwater runoff before, during and after construction as outlined in the City's Stormwater Ordinance to protect these ponds.

Major Brooks and Streams and Wetlands

The streams throughout the city serve as an important resource for wildlife habitat, a source of water for Marlborough's recreational bodies of water, and the principal means of replenishing the community's local drinking water supplies. As with other wetland resource areas, brooks and streams are immediately impacted when inadequate steps are taken to prevent construction-related pollution. These systems are also affected by releases of hazardous materials, especially when they are directly connected to closed drainage systems, and trash dumping. The city should work on raising awareness in the community about the importance of brooks and streams to wildlife, recreation, and water supply. Some recent steps that the city has taken will help protect all of our waterways, these include the stormwater ordinance; the organization of stream teams to evaluate all the streams in the city; and volunteers installing storm drain markers.

In November 2009 the City passed the **Marlborough Stormwater Ordinance** which will improve water quality for new construction projects and require improvements to the drainage

system on existing projects if they are renovated. This is a step in the right direction but more education to businesses, residents and better practices locally will go a long way to helping improve the health of our waterways.

In addition, in 2007 a group of volunteers were organized to form **Stream Teams** coordinated by the Conservation Commission, Green Marlborough and state River ways Adopt-A-Stream program. The City's stream teams have been able to visually survey almost all the streams in Marlborough to check on their health. Aside from a few problematic areas where trash has been dumped, and debris has built up in stream channels and a few locations where blatant dumping has occurred, the majority of the streams are clean and a few are still even pristine in an urban community like Marlborough. The goal for this plan is to ensure the streams remain healthy and to improve the quality of those that are not now pristine. A copy of the reports to date is found at the city's Conservation Commissions web page under Stream Team Reports in menu items also found at:

(http://www.marlbrough-ma.gov/Gen/MarlboroughMA_ConCommisn/StreamTeamReports.)

The last remaining stream segments will be surveyed in 2011. Each report has a list of action items to be reviewed and addressed to solve the listed problems; these are found at the end of each report. These will be reviewed annually to ensure problems are addressed.

The importance of bordering vegetated wetlands as well as other resource areas listed in the state Wetland Protection Act regulations has long been recognized in the Commonwealth. All too often, however, non-permitted encroachments occur when areas adjacent to these wetlands are developed. Strict adherence by builders to local permits from the Conservation Commission and the state's regulations is critical to maintaining the integrity of these areas. As more and more marginal lots are developed, the encroachment into wetland areas has become more apparent. It is therefore recommended that:

- A Wetlands Protection Ordinance be implemented which will give the City stronger control over developments on very marginal wet lots.
- Ongoing monitoring of construction projects and education to all landowners throughout the city of Marlborough will be an important step in the long term protection of wetlands.

Boy scouts marked the storm drains with markers and hung fliers on all residential doors. Brochure went into water bill to educate people about stormwater and the role of individual residents in the city to do their part (copy of brochure and markers can be found in Appendix D). The city also sent out a brochure in the 2008 & 2010 water bill mailing to remind people about protecting storm drains. In addition the Organization of the Assabet River, a local watershed advocacy group has done workshops at The Grove in Marlborough at Ft. Meadow Reservoir to educate kids about the interconnection of our human actions and our water ways and how our actions affect stormwater and water quality. It was well attended. These actions should continue.

Recommendations for further improvements to these wetland systems are as follows:

- It is recommended that educational materials continue to be distributed to all households and businesses regarding stormwater drainage protection to protect

our local brooks and streams. This can be in the form of a flier in the water bill, or other forms of media outlet to get the message across.

- Seek passage of a local Wetland Protection Ordinance to provide better protection to our rivers, streams, wetlands and vernal pools resources within the city.
- Acquire and or protect as appropriate undeveloped parcels of land adjacent to streams ponds and wetlands to better protect these resources.

2. Wildlife Habitat Protection

As stated in section four of this Open Space and Recreation Plan, nine areas within the city have been identified as valuable wildlife habitat. Each area supports a diversity of wildlife because of their size, landscape characteristic and/or location.

These areas are listed below and are shown on map #5 titled Wildlife Habitat and Greenway Corridor Areas. (The numbers correspond to the numbers on the plan)

	LOCATION	OWNERSHIP
1.	Desert	Public
2.	Mt. Ward/Ghiloni Park	Public
3.	Sudbury Reservoir/Callahan St. Pk.	Public
4.	Millham Reservoir	Public
5.	Millham Brook/Glen St.	Private
6.	Flagg Swamp/ Ft. Meadow Reservoir	Private/Public
7.	South St. Brook/ Swamp	Private
8.	Jericho & Shoestring Hill Private	Private/public
9.	Assabet River Corridor	Private
10.	Cider Knoll/Mello Farm	Public
11.	Holts Grove/Stevens St. / Red Spring Rd.	Public/Private
12.	West Hill	Private

These areas represent the last vestiges of contiguous combinations of woodland, lakes, streams, fields and swamps in the community. We recommend that:

- Those properties, which remain in private ownership within these areas and are not protected from development by wetlands or other regulations, should be considered priority parcels in the city for acquisition or conservation restrictions. (See Map #10 and Section 9 for a list of top priority parcels.)

3. Trails and Greenway Corridor Enhancement

The Open Space and Recreation Committee identified several corridors of land with potential for interconnecting trail systems and greenway corridors. These greenway wildlife corridors are shown on map # 5 and trails are shown on Map # 8. These corridors benefit both humans and wildlife. Green corridors are well-suited to hiking trails used by walkers, mountain bikers

(where appropriate), birders, and other kinds of passive recreational users. These areas are also important to the many species of wildlife that use them to travel between different habitat areas.

- The map of potential trails and greenway corridors is a useful planning tool for city officials, boards, and commissions. Using both maps those with oversight over development in the city can direct that development away from greenway corridors and into less sensitive areas.
- The city should consider acquisition of parcels within the greenway corridor, where no other alternatives exist for preservation. This plan should also be consulted when open space developments are proposed to ensure the open space can also serve as a wildlife corridor.
- Creation of the intercommunity trail, illustrated in concept on Map #8 and shown as the “Panther Trail”. This trail will help to connect all existing park and conservation land together with an interconnected trail system, using woodland, sidewalks and roadways to make this connected loop. The vision is to ensure that anyone in the city is only a 10-minute walk to the nearest trail link, and can walk around the entire community.
- Investigate the ability to put a trail system around the Lake Williams and Millham Reservoir and its surrounding woods area. What are the balances and drawbacks from a watershed protection perspective?
- Work with DCR to create a trail system through the DCR Filterbed land adjacent to Sudbury Reservoir and to manage this land to enhance wildlife as well.

Trail systems for recreation and transportation purposes are outlined in more detail below in the community needs section both under recreation and conservation.

D. Summary of Community needs:

This section reviews the current needs of parks and recreation; conservation and then other community needs that are broader than both parks and conservation but related.

1. Park and Recreation Recommendations:

Marlborough has 22 public recreational facilities. These include softball, baseball, soccer, field hockey, and football fields, tennis courts, outdoor swimming pools, lake swimming, basketball courts, track, a sledding slope, skate park, half pipe and playgrounds. (Shown on map#6)

In October of 2000 the Recreation Department developed a report titled Marlborough Recreation Department Fields Report dated Oct. 26, 2000. This document was included in the 2003-2008 Open Space and Recreation Plan and provided the basis for that action plan. The Recreation Department and the Department of Public Works Parks division are to be commended for successfully addressing the needs outlined in this report. All but a few recommendations were implemented. Now, the city can boast having a top notch very well run, well maintained and well managed recreation facilities and programs. Below are the list of successes since 2003 and what the recommendations are for the next seven years to meet the needs of a growing community.

1. Development of Additional Playing Fields- Successes from 2003-2008 plan.

- One little League Field at Williams Street
- One Girl's Youth Softball Field was added at Hildreth School
- One Jr. Babe Ruth baseball diamond at Stevens Park
- Construction of two soccer fields at the Assabet Valley Vocational School

Current field needs for the next 7 years are:

- Need two multi-purpose fields 180 (w) x 120 (L) - these could be installed at the old landfill site as part of a larger complex.
- Kelleher field needs a major upgrade and overhaul including the cement stands and the facilities underneath which accommodates teams and restroom facilities. Kelleher field would also be an ideal facility for a turf field as well.

2. Recreation Building Facilities

Success:

The **Jericho Hill** indoor and outdoor facility was completed in 2004 paid for with city and State Urban Self Help funding. This facility which provides recreation programs, a practice field, basketball courts and a playground was constructed and is well used all year round.

Ft. Meadow Boat Access- Boathouse

Another success of the 2003-2008 plan was the purchase of the St. Marks Boathouse dedicated to Mr. Hicks a former member of the Ft. Meadow Commission. The Hicks boathouse has been renovated and now serves as a storage area for canoes and boats for the high school to use, and continues to provide access to the lake for resident boaters from Marlborough and Hudson. The Recreation Department and Ft. Meadow Commission provide supervised gate access to the lake during the summer months and serve to educate the public about invasive weed removal from boats to help protect the lakes health.

Ward Park Improvements

Some improvements to Ward Park were made including new playground equipment, benches, newly refurbished ½ pipe, guardrails and improvements on Liberty Street and some new plantings. Ward Park is located in the down town area and serves the Environmental Justice population neighborhoods. But additional improvements are still needed.

Recreation Dept. Current needs:

Going forward, a plan to evaluate and identify indoor recreation facilities needs to be done. Based on the survey results and evaluation by Recreation Department and School Department there is a need to upgrade some of the current recreation building facilities:

- **Ward Park Improvements** A plan for ongoing improvements of the football field and other facilities at this location needs to be developed. These fields support the youth football program. The implementation of this plan over the next **seven** years will be important to improving the access and usefulness of this park that is in the middle of the city. This includes improvements to the football field and track, bathroom facilities, wading pool and over all upgrades and

accessibility issues. This is an important park for the center city and is used heavily by the residents and sports groups and is within the environmental justice areas identified on the state maps.

- Upgrade to the **Middle School Gym** is a high priority
- Upgrade of the **Memorial Beach bath house, parking lot and access** is a very high priority. This is the city's swimming and beach area. The entire facility from the parking lot to the building is old and in desperate need of an upgrade. A plan to redevelop this site should include upgrade of the parking lot including drainage and aesthetics; access walkway; the restrooms, picnic area; septic system, and dock area. This is a huge asset to the city and a good upgrade and face lift will improve this important recreational facility. In addition the plan is to make it a year round walking trail area. Currently it is only used 3 months in the summer and left unused the rest of the year. This will be a great asset to the city to have it open year round.
- **Landfill site off Bolton St.** The old municipal landfill could be developed into a second Ghiloni Park facility complex with restrooms, multiple fields and recreation buildings. This complex would fill the need of two additional playing fields, and provide additional recreational facilities for various sports groups. This property is bordered by the Assabet River Rail Trail and is a wonderful central location for such a venue. It is also beautiful as it overlooks Ft. Meadow Reservoir. It is close to both the high school and middle school and Assabet Vocational Schools which makes it an ideal location for such a recreational complex.
- The **Jericho Hill** facility is well used by many. One additional asset to be constructed in 2011 is the addition of a walking trail through the woods and to the top of the hill. This can be used as a cross country ski trail in the winter and a hiking trail in the summer months.
- **Outdoor pool facilities:** The recreation department manages two outdoor pool facilities, one at Hildreth School and the other at Ward Park. These pools get tremendous use in the summer and will need to be upgraded within the next few years to keep them safe and useable.
- Development of a city owned **indoor pool facility and indoor gym** facility would be a huge asset to a community the size of Marlborough and was noted as a need in the community survey.
- **Stevens St. Property** – this property belongs to the city's Recreation Department and is adjacent to the Cemetery on Stevens St. It is not used for any purpose at the moment This report recommends that this site be looked at to determine if passive walking trails or historic park or community gardens could be developed at this site.

- **Kelleher Field- Jefferson St.** - this property is in need of a major upgrade and overhaul including the cement stands and the facilities underneath which accommodates teams and restroom facilities. Kelleher field would also be an ideal facility for a turf field as well.

3. Management Plan:

Success: The DPW Forestry Parks and Cemetery Division has developed a comprehensive management plan for all fields and recreation facilities. This included standards for field maintenance and a schedule for resting fields. This long term management planning has been successful in allowing all fields to be used and has improved the health and playtime on all the fields.

In addition to field management the parking issues at most of the parks especially Ghiloni park have been addressed. This has been achieved through scheduling systems to avoid traffic problems. The sanitary facilities at all major recreation areas have also been upgraded and are working properly.

Current management needs:

- Ongoing Maintenance- As with all city facilities the need to provide ongoing maintenance is critical. These activities must be funded and supported to ensure that the city provides the normal maintenance and upkeep of playgrounds and athletic fields, so as not to incur costly repairs in the future and to keep these facilities safe for use.

4. Education/ programs available

The recreation department offers a wide range of programs for all ages and abilities. From traditional sports programs and swimming lessons to dance, fencing, CPR certifications etc. In addition the recreation department runs and sponsors summer concert series and Saturday morning discovery series for all ages. The City Recreation web site contains all the program information, field use information and summer programs offered. It also provides driving links to all their facilities and information about special events. In 2011 a color brochure will be provided to help promote the great programs for all ages, and facilities of the recreation department.

These programs can be found on the recreational link and are attached in Appendix E.

5. Parks Clean-Up Day

All sports groups are required as part of their use permits to participate in cleaning up the fields they use. Individual leagues establish a parks cleanup-day with their participants at the beginning of each season. This is a big help to the city.

6. Assabet River Rail Trail

Success: 2005 saw the successful completion of the Assabet River Rail Trail (ARRT) which provides recreation and is used as an alternative mode of transportation for commuters. The Assabet River Rail Trail begins in Marlborough at Lincoln/Highland Streets and will, when completed, continue for 12 miles to South Acton at an existing

commuter rail station. Amenities such as benches, kiosks and bike racks were added in 2008 & 2009 which are great additions. Several scout groups have adopted corners to plant flowers and beautify intersections to enhance the enjoyment of the trail. ARRT Inc. and MCDC were instrumental in putting together a bench and bike rack donation program which has added these great amenities to the trail. The trail begins in an Environmental Justice neighborhood in the center of the city.

Current needs:

- Care and management of this linear park should be given to the Recreation Department and the DPW for management and maintenance. Currently because it has not been formally designated to any particular department for oversight, the city council has oversight.
- Formal Trail Head/park- The next phase of this project in Marlborough should be the acquisition of the old railroad depot site, or providing access from the Jefferson St. parking lot or other sites in the center city that can provide a “formal trail head” for this regional trail system.
- Connect trail to down town: The MCDC charette for the trail envisioned connecting the trail from its start at Lincoln St. south to Main St. and making some other safety and aesthetic improvements to the trail. MCDC worked with the city to get donations for the benches and bike racks which have been installed along the trail.
- The City should continue to work with MCDC and the ARRT Inc. volunteer group to continue to support this linear park.

Summary:

There have been many improvements over the last six years to our recreation facilities and program which has made a big difference in serving the residence of Marlborough. Following through on the recommendations above – upgrading the existing facilities and building a few additional facilities will provide Marlborough with a top notch recreation program and continue to add to a high quality of life to the residence and continue to make Marlborough a great place to live.

2. Conservation Commission Recommendations:

The Conservation Commission manages nine large areas and many small parcels of land in the city shown on Map # 6. The city is lucky also to have other large state and non-profit owned parks and forest land for use by the residents of Marlborough and adjacent communities. Additional acquisitions to protect wildlife areas and provide adequate open spaces and passive recreation facilities for this growing community are essential to protecting the current quality of life.

The 1989 passage of the Open Space Development ordinance has already protected over 100 acres of land at no cost to the city. To date, the Planning Board, which regulates the Open Space Development Ordinance, has focused its attention on identifying appropriate locations within the open space parcels of the developments, for developing walking or hiking trails and where appropriate interconnecting them with other existing or proposed trails. In most cases, the

developer has been required to build the trail as a condition of plan approval where trails were appropriate.

In view of Marlborough's continuing growth, it is essential that the city protect its priority list of parcels, including areas shown on the Wildlife Habitat Map #5. The Conservation Commission and the Open Space and Recreation Committee have identified the following priority parcels for future protection (in whole or in part):

- the remaining parcels around Ft. Meadow Reservoir,
- Flagg Swamp (to be conveyed to Div. Fish and Wildlife in 2010),
- the area within the vicinity of Mt. Ward,
- South St. Swamp and Spoonhill,
- Glen St. watershed protection land
- Hillside School property protection
- Tree Farm on Berlin Rd.
- Remaining farm land on South St.- encourage farm land protection

The city's toolbox for land conservation should include appropriate use of open space development plans, conservation restrictions, and outright fee purchase. There are a number of methods the city should look into to seek funding for such protection these include: State grants, Community Preservation Act funds (a group tried to pass the CPA in 2010, although it didn't pass it got much support), budgeted funds established by Mayor and City Council, and private public partnerships- to name a few.

The full or partial acquisition of the last remaining parcels under Ch. 61A (agricultural use) should be a priority (shown in yellow on map #7 labeled as PA) . Marlborough was once known for its many apple orchards and dairy farms. Sadly, only four farms remain of that agricultural legacy. The Open Space and Recreation Committee recommends that the city keep these farms in continuing agricultural use, or if that is not possible, as protected open space. The city is strongly encouraged to find a way to keep these farms active, as they contribute greatly to Marlborough's scenic landscape and are important to providing local produce too!

Of the nine areas noted on the Wildlife Habitat and Greenway Corridor Map, (map #5) the following items of conservation interest are noted below to provide a better understanding of their importance within the natural community and recommendations on how each area can be better protected. A full analysis of the existing conservation land and management needs, are discussed in a separate section below.

a. Desert (shown as site #1)

The main work on this 600 + acre property in Marlborough and Sudbury is to continue to work together with the Sudbury Conservation Commissions, Sudbury Valley Trustees, Federation of Women's Clubs, and the DCR Dept. of Forests and Parks to coordinate the management of this property and maximize its biodiversity and recreation values.

Current Need:

- One large parcel within this area shown as MU 129 on Map # 6 has been managed

for over 20 years by the Conservation Commission but the deeds and acquisition documents do not specifically designate the Commission as the managing entity although the adjacent parcels acquired later do designate the Commission as manager. This should be so designated to avoid any confusion in the future.

- Within this parcel are 11 small isolated parcels of approximately 5,000 sq. ft. or less, which should be acquired as gifts, tax title, or purchase to make this area contiguous conservation land. These are shown on Map #7 within the Desert Natural Area conservation land.

b. The Mt. Ward/Ghiloni Park area (shown as site #2)

The acquisition of Mt. Ward and the Sorabells land next to Evergreen Cemetery has protected a scenic vista, preserved a wooded landscape, and provides a buffer between the city's Easterly Wastewater Treatment Plant and the Sudbury Valley Estates subdivision. This area has an abundance of wildlife in the area and a new trail head off Rte. 20 and trail connection from Rte. 20 to Mt. Ward is the success of the 2003 plan.

Current Need:

- The final connection to be made is the trail connection over Indian Hill to Callahan State Park which then makes a connection between Callahan State Park and Ghiloni Park.
- The acquisition of the small abutting undeveloped parcels within this area should be protected through well-planned open space developments, conservation restrictions, easements or fee.

c. Assabet River area (shown as site #9):

Development continues along the Assabet River corridor in Marlborough. This area is zoned for business and has the necessary infrastructure to support the planned growth.

Current need:

Because the river is such a significant recreational and scenic resource, the Open Space and Recreation Committee recommends that:

- development proposals incorporate a greenway corridor along the river that allows for walking trails and/or protects the scenic view from the river for boaters. This corridor should be protected through a conservation restriction, deed restriction, or other easement or agreement.
- The Hillside School property on the north side of Robin Hill Street and southeast of the Assabet River should also be considered for conservation restrictions. A portion of this land, which is the site of an operating farm, does have a right of first refusal agreement placed on it which is set to expire in 2013 but the majority of the remaining Hillside School property does not. This area is one of the few remaining roadway corridors within the city having a rural scenic appearance. Some type of long-term protection agreement on this property should be sought to benefit both the city and the school.

d. Flagg Swamp/ Ft. Meadow Reservoir area (shown as site #6)

Flagg swamp is the headwaters to Ft. Meadow Reservoir. Flagg Brook is one of the few brooks in the city containing native brook trout due to the cool and clean nature of this stream. Protection of this large wetland and its stream systems is extremely important to the protection of water quality within Ft. Meadow Reservoir. Over the years this recreational lake has experienced weed growth, over time if non-point sources of pollution is not controlled the water quality of the lake may be jeopardized. Therefore, the protection of all parcels within this area should be a priority either through acquisition or well planned open space development and conservation restrictions. Three parcels of high priority are:

Current needs:

- The Massachusetts Highway Department owns a large parcel of land shown as PU 264, which abuts the Rt. 85 connector Road and has frontage on Lower Pleasant St. This 52 acre parcel abuts other city conservation land. As this plan goes to print this parcel is slated to be conveyed to the State Division of Fisheries and Wildlife for permanent protection. Protection of the stream corridor from the headwaters at Flagg Swamp to Ft. Meadow will have a long term positive benefit to the water quality of the lake. This area is also extremely important to wildlife habitat protection. A license agreement between the Conservation Commission and Division of Fish and Wildlife will allow the Commission to add trails, signage and manage this property to allow citizens of Marlborough and other communities to access this land. This is a huge asset to this part of the city.
- Construction of a trail system that connects all open spaces in this area while also being sensitive to the wildlife is to happen in 2011 as the Commission's newest conservation area.

e. Sudbury Reservoir/Callahan State Park (shown as site #3)

The Sudbury Reservoir and Callahan State park provide hundreds of acres to the city's open space. These two parks are part of the Bay Circuit Trail, which is a nearly continuous trail of green space, which loops 100 miles from Plum Island on the North Shore, around Boston and communities to the west and down to Duxbury on the South Shore. The Greater Callahan Plan recommends:

Current need:

- the acquisition of the Rousseau property shown as PU 288 on the unprotected Land map # 7. Callahan State park extends into Framingham and there is support for acquisitions in both Framingham and Southborough which will provide connections into the Marlborough sections of state park which helps to expand this regional treasure for all the abutting communities.

f. Holts Grove/Stevens St. (shown as site #11)

With the protection of additional acres around Holts Grove from the Waters Edge Development there remains one large undeveloped portion of this maze of properties.

Current need:

- A portion of the last remaining parcel shown as PU 307 is of high priority for protection, to provide protection to the lake from further development in the watershed, as well as providing some much needed open space in this densely developed portion of the community. Only the portion which is not developed into house lots is of interest to the city.
- Abutting The Grove on the other side of the lake is a parcel which is land locked just next to the lake and behind WalMart. This parcel of land shown as PU 242 should also be protected in perpetuity to help protect the lake.

g. Millham Brook/Glen St. (shown as site #5 & 4)

The section of Millham Brook, which flows from Lake Williams to Rt. 20, will need to be protected to protect water quality of Millham Reservoir. The Open Space Committee noted that this area is zoned industrial and limited industrial and includes a large wetland between Glen St. and Rt. 20.

Current need:

- This area should be protected through local development regulations and through acquisition for park or conservation land due to its location. Proposed developments within this area must ensure best management practices of all stormwater, and where feasible create an undisturbed corridor along this stream system for both water quality and wildlife habitat protection as recommended in the Water Supply Protection District ordinance. This area was also once an apple orchard and if some of this land is to be developed, strict protocol to ensure that the pesticides in the soil are control so as not to impact public health will be required.
- A discussion with the water department at DPW should be held to determine if a legal trail system can be made around Millham Reservoir as a recreational amenity without compromising water quality. The area is quite beautiful and would provide another beautiful area for citizens to enjoy.

h. South St. Swamp (shown as site #7)

The South St. Swamp area is currently protected under the Inland Restricted Wetlands Act MGL 131 s.40A, therefore, the swamp itself already receives protection and would not be a priority acquisition, however a portion of Shoestring Hill has not yet been developed and would provide a buffer, and open space area for residents. Its steep slopes have precluded development, but as development pressure on land continues, even these marginal parcels of land may some day be developed.

Current need:

- Protection of Shoestring hill and South Street swamp in whole or in part is

recommended with an eye to how it can connect to Jericho Hill and South st.

i. Howe Pond (shown between site #4 and #6)

Howe Pond and the land surrounding it was purchased for watershed protection and conservation purposes, and should remain a protected area. However, the pond offers fishing and wildlife viewing opportunities, additional land has been acquired around it for open space purposes. Creating a trail system through this parcel should be considered and weighed against the watershed protection needs. If the two can be accommodated together, a trail system, which honors the wildlife habitat in the area should be created.

Current need:

- Investigate the ability to install a trail to the Howe Pond area and surrounding open space off Bigelow St.

3. Community connections:

The OSRC looked at the community as a whole and not just its conservation and recreation parts exclusively. The goal of making the city a more liveable and walkable community lead the committee to add this new section on community connections which includes a number of new initiatives from trails, community gardens to walking school buses which are described below. Some are established, some are ideas ready to be implemented, and some are just ideas to pursue:

Intercommunity trail systems- A goal established by the OSRC was to ensure that every resident of the community could within a 5 minute walk from their homes find a connection to a park, open space or trail system. This idea spawned several potential projects which are illustrated on map #8 and include:

- **Panther Paw trail** – This is a proposed trail which when constructed would be a 19+ mile trail that creates a big circle through the city and connects with many open spaces and recreation facilities. It doesn't reach the far corners of the city but provides a connected trail system, using sidewalks, existing trails and connections to be constructed. This is illustrated on Map #8.
- **Sidewalk Connections** - Throughout the city there are areas where adding one sidewalk or small links to sidewalks, will help provide walking access from neighborhoods to recreation and conservation areas and make Marlborough more walkable. The illustration below shows how a short section of sidewalk on Concord Rd. will allow for several large neighborhoods to connect to Ghiloni Park recreation area by means of a walking path. (see figure #1) Currently Concord Road is narrow and does not provide for safe walking passage especially not for children or parents with baby strollers. The recommendation of the OSRC is to take a look at the sidewalk map for the city to look and see if there are other areas where a short section of sidewalk would open up a huge area for safer walking connections.



Figure 1

- **Road Bike Map** - It is recommended that Map #9 be reviewed and that the DPW and other planning departments within the city work to develop a long range map for improving roadways to accommodate road bikes. This new map should show locations where future bike lanes should be included when roadways are reconstructed. These lanes should be marked with the bike lane symbols used on roadways.(See figure 2) Having a map to guide this development will help ensure that the city becomes a more bike friendly community. The city should have a policy to be sure that when roadways are reconstructed and widened that, where feasible, a bike lane be added to improve the safety of bicycle riders and commuters.



Figure 2

- **Mountain Bike Trail Map.** The OSRC discussed a proposed mountain bike trail to connect Callahan State Park with the Desert Conservation Land. This trail is still to be mapped but could include some existing sewer lines land the city owns and manages as well as some roadways and other conservation trail connections.
- **Walking trails through industrial and office parks.** During the lunch hour there are many people walking and jogging along Forest St., Crane Meadow Rd.; Cedar Hill St; Ames St. and Nickerson Rd. and Hayes Memorial Dr. none of which have sidewalks. The vision for this area is to have a meandering sidewalk or woods trail, or along roadways, to create a safe and pleasant trail system that can be used in this quadrant of the city's industrial and business sectors. For this idea to take hold and become a reality the city will need to work closely with the corporations in this part of the city to get the idea accepted and implemented. If feasible a connection to the MWRA open channel Wachusett Aqueduct should be provided as well.

Healthy Schools Program: Over the past 3 years the Healthy Schools program has developed the Safe Routes to School Walking School Bus program. This program allows parents to put their kids in the walking school bus line rather than driving to school. More that 1000 students participated in 2009. Map #8 & #10 illustrates the walking school bus routes used in 2009.

Current need:

- The OSRC recommends that the city through the schools and healthy schools program look at all connections to schools to ensure that there are sidewalks and where feasible provide additional connections through neighborhoods. Transportation Improvement Program funding can be made available to build connections as needed as well. A map of these potential connections should be generated to help plan for the future.

Connecting trails from sidewalks to conservation lands, recreation lands, schools, public libraries, and state park lands and watershed areas. All these walking/biking connections help to make Marlborough a more walkable and livable community.

Community Gardens: The idea of community gardens has been talked about over the years. During the development of this plan it was clear that the need for a city owned community garden program exists. There are several locations within the city owned properties where Community Gardens may be able to be installed.

Current need:

- The OSRC recommends that several locations be pursued, funding found and that

community gardens be set up for the benefit and use of its citizens. Several of the condominium and apartment complexes provide this amenity to their residents but there are many more that do not. This would be a great asset to the community and will be pursued. Possible locations to consider are:

- Felton Conservation Land
- Mello Farm/Cider Knoll Conservation Land
- Stevens St. Land
- Schools or parks
- Gulbankian Fields (privately owned)

D. Management Needs, Potential Change In Use.

One of the greatest achievements made over the past seven years has been better management of recreation facilities and providing high quality recreation programs to the community. However, more management and signage is needed for conservation lands and more education to residents about these resources is need. The following section identifies the management needs for both these departments to improve the services they provide to the city.

1. Recreation Facilities Management:

As noted above the greatest achievement made over the past five years has been the better management of the city's recreation facilities.

The current management practices for all recreation facilities has included:

1. Better turf management
2. Resting fields for the season to rejuvenate them
3. Purchasing new and better equipment for more effective management
4. Staff training on best turf management practices
4. Establishing maintenance schedules for all fields
5. Providing a realistic five year capital plan
6. Enlisting local neighborhood groups in the planning, maintenance and management of these facilities where appropriate.
7. Ensuring all playground equipment has some handicapped accessibility options.

It was agreed that these management practices and procedures should be continued and documented to ensure that the positive results that have been achieved thus far are not lost as staff or administrations change.

Finally, the Open Space Committee recommends that the Recreation Department continue to develop programs which encourage citizens of all age groups and abilities to make use of the communities many facilities and resources. The current program offerings cover many age groups and serve the community well. A list of the programs offered can be found in appendix E.

2. Conservation Land Management:

Seven large and prominent parcels of land have been acquired and developed over the years for conservation purposes. These are the Felton Conservation Land, the Holts Grove parcel, the Desert Conservation Land, Cider Knoll, Mt. Ward, The Grove, and the city/state forest next to Ghiloni Park. All have trails and are actively managed during the summer months. Continued use of summer intern(s) whose sole responsibility is to manage the city's conservation land, and coordinated volunteer efforts to maintain and enhance the trails in these areas is strongly recommended.

Brochures, trail maps and kiosks, with rules and regulations, have been placed at all conservation lands with trail networks. These will continue to be updated as new trail connections are provided and as new parcels are acquired and trail systems developed.

Parking facilities are available at all the conservation lands. In some cases it is a formal parking lot created, in other cases parking is provided on the edge of the roadway at a cul-de-sac. As new parcels are acquired, trail connections and parking areas will be constructed.

Volunteer help for nature trail maintenance has been provided at Ghiloni Park nature trail by the local Girl Scout troop and a local farmer mows the fields of the Felton Conservation Land under a license agreement. Eagle Scout candidates have built many of the Commission's trails, kiosk, bridges and benches for conservation lands. These volunteer efforts should continue as they are extremely valuable to providing safe trails for citizen use. The city's scouting community provide invaluable service to Marlborough and should be commended.

A management plan and stewardship committee has already been developed for The Desert Conservation land. This is a unique effort in that the management of this area is a cooperative effort between the town of Sudbury, city of Marlborough, Federation of Women's Clubs, the Sudbury Valley Trustees, and the Massachusetts Department of Conservation Recreation (DCR). This group continues to meet annually to discuss management issues as they arise and ensures that problems are addressed promptly.

Several parcels of land identified through the inventory process as owned by the city have never been assigned for management purposes to any particular department. These parcels are identified as municipal other in the inventory matrix in chapter 5, and should be designated to a particular city department for management. This will ensure that all city-owned land is accounted for and being managed appropriately. These parcels are shown as MU on map #6. (some are assigned managers and some are not).

The OSRC recommended that the city needs to develop a more active volunteer network, both to promote its wonderful natural resource assets and to encourage local citizens to become better stewards of these natural resources. When implemented this will allow for more people to take ownership and help protect these wonderful assets to the community. Geen Marlborough has already taken the lead and holds guided walks once a month.

If these management recommendations are implemented the city residence will be better served and conservation land better protected.

D. Handicapped Access Inventory - Section 504 Self-Evaluation

The ADA self-evaluation found in Appendix G provides an evaluation of how accessible the City's conservation and recreation properties and programs are to people with disabilities. Below is a brief summary of the conservation and recreation properties noting any areas where improvements are needed and the importance of making more comfortable and safer properties, trails and programs for handicapped residents and visitors. It also includes information on the City's administrative and employment practices which is included in the Appendix G. A meeting was held with the Marlborough Disabilities Commission on April 5, 2011 to review the OSRP. Over all the Commission noted that the city does a relatively good job with accommodation for recreation areas. Several recommendations which came from the evaluation of the facilities were discussed and are outlined in Appendix G.

ADA Self-Evaluation Information for the Recreation Department

The mission of the Recreation Department is to provide affordable quality recreational opportunities and safe recreational programs and facilities for all its residents and school children. Over the past 6 years all playgrounds have been upgraded to include accessibility for handicapped residents including transition platforms for play equipment, in most cases handicapped swings and height appropriate facilities have been added. In addition both recreation buildings, the one at Concord Rd., and the other at Jericho Hill on Brigham St. have been upgraded to be accessible to the public, with access walkways and Jericho hill has an elevator to access the second floor. The remaining properties that require upgrading and which appear on the 7 year action plan are the upgrades and renovation of: Memorial Beach; Ward Park; in addition a few of the restroom facilities associated with the fields are within school buildings- an evaluation of the school buildings was not done for this report Byrne field needs an accessible parkinglot and field, Hildreth School needs an upgrade to the pool and picnic area to make it more accessible.

Overall however, the city Recreation Department and DPW Forestry,Parks and Cemetery department have done an amazing job getting all the playground equipment and facilities up to ADA standards, except for the few as noted above and as explained in the inventory in appendix G.

ADA Self-Evaluation Information for the Conservation Department

All conservation lands have natural woods trails which follow the natural terrain. Some have bridges to cross wetlands or boardwalks to get over wet marshy areas. Some have small steps to provide access up slopes, most have gravel parking lots leading to trails. Only The Grove was designed specifically to be handicapped accessible. The seven year action plan includes adding a handicapped accessible ramp/dock at The Grove to allow access to the lake for fisherman and canoe launching. One or two of the trails are to be investigated to determine if some of the city's conservation land trails could be made to be more handicapped accessible and user friendly to all age groups and abilities.

See appendix G for full report including how the city complies with ADA employment practices etc.

GOALS AND OBJECTIVES

Goal 1

Create an action plan with measurable results and a process to promote and review progress

Goal 2

Protect and enhance the city's natural resources- air, water, land, and provide connectivity among them for both people and other living things

Objectives:

- A. Preserve and protect the City's drinking water supplies through the proper management of Lake Williams, Millham Reservoir, and Sudbury Reservoir and their respective watersheds.
- B Preserve and protect watersheds to wetland and water resource areas including rivers, streams and ponds.
- C. Preserve and protect wildlife, wildlife habitats and corridors and maintain and enhance biodiversity.
- D. Preserve and protect other natural areas particularly those of unique features-hilly topography, scenic meadows, wetlands, wooded areas.
- E. Acquire, expand and enhance existing and new open space lands and related easements and conservation restrictions.
- F. Provide educational materials, signage, workshops for the public and schools to help in the protection and enhancement of our Natural Resources as identified in A, B, C and D above.
- G. Preserve and protect the air quality of our city by developing a policy to buy hybrid vehicles, strictly enforce no-idling laws, promote tree planting and other measures to improve air quality.
- H. Connect walking trails and bike trails with open spaces to provide non-motorized means of transportation.

Goal 3

Protect the biodiversity of local plants and animals while maximizing passive recreation for people.

Objectives

- A. Promote, develop, and update management plans for all conservation land and land with conservation restrictions including maintenance schedules and parking plans if necessary. These plans must include an inventory of habitat areas, invasive plant species inventory,

B. Develop land management plans for all recreational lands to determine if the non-active recreation portions of these parcels can help to promote and protect biodiversity.

C. Review all city owned land to determine if any or some portion of the properties may have value for biodiversity and manage it accordingly.

Goal 4

Provide quality recreational facilities and adequate recreational opportunities for city residents of all ages for both passive and active recreation.

Objectives

A. Continue to implement and update management plans for all active recreational facilities including maintenance schedules. (Include field resting issues.)

B. Ensure that programs provided by the city give opportunities for all age groups and abilities, including handicap accessibility as feasible. Recreation programs should be available for all age groups from toddlers to seniors.

C. Promote, develop and update management plans for all conservation land and land with Conservation Restrictions including maintenance schedules. This plan must include: inventories of habitat areas, invasive species inventories, trail use/maintenance issues and when trails need to be fixed or retired.

D. Take advantage of funding programs for acquisition and adequate maintenance of recreational facilities and open space parcels. Expand recreational facilities and conservation land as needed to meet community needs.

E. Develop an intercommunity trail system to link all open spaces and recreation lands together.

F. Continue to develop and connect with intra-community trail systems to take advantage of shared resources in neighboring communities.

G. Determine how to deal with trash, graffiti and litter throughout the city and on recreational and conservation parcels.

Goal 5

Preserve the character, historic, and cultural resources of the community.

Objectives

A. Develop a city-wide plan for encouraging agricultural and open space use of land.

B. Preservation and enhancement of local historic landscapes, especially those that complement local historic structures, and preserve natural landscapes to protect the viewshed from and to those historic structures.

C. Provide a funding source to help promote land acquisition, historic preservation and the development of recreation facilities.

Goal 6

Provide connectivity among all open space parcels- parks, conservation land, school system, wildlife corridors, and trails throughout the city and within adjacent communities.

Objectives

- A. Create a city wide trail system that connects places of interests such as parks, conservation lands and schools.
- B. Create trail links with adjacent park properties in bordering communities

Goal 7

Promote and develop regional open space and recreational opportunities, especially through the connectivity of walking and biking trail systems.

Objectives

- A. Work with adjacent communities to understand their open space and recreation needs and coordinate the purchase and development of conservation and recreation land acquisitions, trails and recreational facilities as appropriate.
- B. Promote the development of regional bicycle/pedestrian paths for transportation and recreation purposes.
- C. Continue to work with state agencies, local land trusts, and adjacent communities to create corridors, expand and protect parks, forest, and conservation land and facilities in the city and on the municipal boundaries.

Goal 8

Engage community citizens in preserving and maintaining open space, recreation and natural resource areas throughout the city.

Objectives

- A. Provide educational materials to help educate citizens about open spaces and recreation resources.
- B. Create a stewardship program for city owned parcels of conservation and recreation land
- C. Engage schools in knowing about our biodiversity, natural history, and human history of the city.
- D. Promote and enforce carry in carry out policy.

SECTION 9

7 YEAR ACTION PLAN

The following is a list of actions necessary to meet the goals and objectives of the Open Space and Recreation Plan outlined in section 8. All of these items have been described in depth throughout this document, especially in section 7. Map #10 is a visual illustration of the key action items of this 5-year action plan. The first part is a summary of the 7 year action plan highlights at a quick glance. This is followed by a chart showing all the individual actions that need to be taken to meet the goals and objectives listed in section 8.

7 Year Action Plan Highlights - Below are the highlights of the action plan chart for easy reference. Details on each of these are found within the chart below.

Conservation:

Priority acquisitions- to protect in whole or in part through acquisition or other means:

- South Street Swamp and Shoestring hill
- Property next to Ft. Meadow
- Boston Scientific parcel next to Ft. Meadow (Blaiswood Ave.)

Priority parcels to protect in whole or in part- through conservation restrictions, open space developments, agricultural preservation; or other methods to help protect these parcels:

- All farms—the goal is to keep these farms working-
 - Riano Farm – South St.;
 - Houde Tree Farm- Berlin Rd.
 - Magee horse farm- Rte. 20 East
 - Bolton St. Tree Farm
 - Gulbankians fields
- Flagg Swamp Conservation Area (MassHighway land)confirm transfer
- Glen St.- Gutiereze property- for watershed protection
- Hill Side School – property
- Parcels along North Branch brook Millham Brook (off Elm St.) for watershed protection
- Mauro parcel on Hemenway St. (under Ch. 61A)
- Make The Grove more accessible to water for Handicapped users- Install float for boat and fishermen using the property.

Recreation: Priority projects-

- Memorial Beach upgrade and handicapped accessible
- Ward Park upgrade
- Bolton St. Landfill built into recreation field complex
- Upgrades of Kelleher Field stands and facilities
- Need additional fields – one football and two multi use fields
- Pool and Gym Facility for indoor year round use

Other Community projects

- Community Gardens- possible locations to look into:
 - Felton Conservation Land
 - Mello Farm/ Cider Knoll conservation land
 - Bolton St. – old landfill
 - Stevens Park
- Making the city more walkable-
 - Interconnected city trail- “panther paw trail”
 - Making Marlborough more walkable/Healthy community- sidewalk analysis
 - Walking School bus routes
 - More connections with bike path to downtown and other destinations
 - Walking and jogging trails through campuses of the industrial park area to make that more attractive to workers and to interconnect so workers don’t have to walk on streets.
 - Trails around DCR filter beds and Sudbury Reservoir
 - Bike trail map to be produced for on road biking / Create bike lane map for future roadway improvements.
- Look at existing municipal land to see if it can ALSO be managed to provide trails, or wildlife habitat (no acquisition cost to the city) ie:
 - Spoon Hill Water tower
 - Lake Williams Trails
 - Millham Reservoir Trails
 - Trails along utility line takings
- Water Quality Improvement Projects.
 - Stream Team volunteers
 - Storm drain markers with volunteers- scouts
- Stewardship
 - Organize volunteer stewards to walk conservation land
 - Organize volunteers to help maintain conservation lands and park land

Seven year Action Plan

Goal 1

Create an action plan with measurable results and a process to promote and review progress.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
Establish an ongoing Open Space and Recreation Committee that can meet twice a year to review progress of implementation of the Open Space and Recreation Plan. Subcommittees can be formed to advance certain tasks. Membership must include a representative from the Planning Board, Conservation Commission, Historic Commission, Recreation Commission, DPW and citizen representation.	September 2011 establish committee	\$ none	
Open Space and Recreation Committee should review the task list annually and make adjustments to time tables as needed to keep the plan on task and ensure implementation.	Annually	\$ none	
Update the Open Space and Recreation Plan	2015	staff	

Goal 2

Protect and enhance the city's natural resources- air, water, land, and provide connectivity among them for both people and other living things

Goal 2, Objective A: Preserve and protect the City's drinking water supplies through the proper management of Lake Williams, Millham Reservoir, and Sudbury Reservoir and their respective watersheds.

Action Item	Schedule/ Responsible	Potential Funding	Comment
-------------	--------------------------	----------------------	---------

	Department	Source	
<p>Acquire parcels, conservation easements and/or ongoing protection of parcels within the watershed of Millham Reservoir and Lake Williams to ensure greater protection of the water supply.</p> <p>a. Glen St. parcels owned by Gutierrez—seek easements or restriction, and/or purchasing critical pieces near waterway to ensure protection of watershed.</p> <p>b. Marlborough Fish and Game – ensure ongoing open space status</p> <p>c. Agricultural fields on Williams St. – Jackson Farm</p>	2011 and ongoing	City funds, state grants, mitigation/public private partnership or as part of open space development	
<p>2. The city DPW and Conservation Commission must work with MassHighway/DOT to institute a reduced salt use policy within:</p> <p>a. The I-495 and Rte. 20 highway sections, which drain to the Lake Williams and Millham Reservoir watersheds.</p> <p>b. Sudbury Reservoir area</p>	<p>2011 send inquiry to MassHighway</p> <p>2011 have policy in place and follow up with Mass Highway on implementation</p>	\$ None	
<p>3. The city DPW and Conservation Commission must work with Mass Highway/DOT to develop a treatment and containment system along the section of Rte. 20 that abuts Lake Williams from Williams St. to the I-495 interchange, to ensure that any spills or accidents on Rte. 20 can be contained before entering Lake Williams.</p>	<p>Began discussions with Mass Highway in 2009</p> <p>Work on design and funding in 2011</p> <p>Begin construction in 2012</p>	State and city funds	
<p>4. Acquire properties and/or conservation easements and work on ongoing protection of land within the Sudbury Reservoir</p>	2011 and ongoing		

<p>watershed for protection of this back up water supply.</p> <p>a. All large remaining parcels within this watershed are highlighted on Map #7 including:</p> <ul style="list-style-type: none"> • Gulbankian fields- encourage ongoing open field use under Ch. 61A • Magee Farm land- encourage ongoing open field use (but ensure proper management of paddocks and manure piles to protect water quality) • South Street Swamp & Shoestring Hill • Rousseau property off Parmenter Rd. <p>b. Consult with State DCR on this plan where it abuts state watershed land and state park.</p>		<p>City funds, state grants, open space developments and/or public private partnerships,</p>	
<p>5. Reactivate the filter beds on Walker St. to help filter out urban runoff before entering Sudbury Reservoir.</p> <p>a. Develop plans and work with state DCR</p> <p>b. Develop monitoring program</p> <p>c. Seek funding to implement plan</p> <p>d. Implement Plan</p>	<p>2011 begin discussion. DPW and Con Com. will have discussions with DCR</p> <p>Seek state or federal funding for this project</p>	<p>City funds, state grants and state funding</p>	
<p>6. Strongly encourage developers to design subdivisions using the city's open space development ordinance within the drinking water watersheds to save more open space reduce runoff and improve water quality.</p>	<p>2011 – ongoing Conservation Officer and Planning Board.</p>	<p>\$ None</p>	

Goal 2, Objective B: Preserve and protect watersheds to all wetland and water resource areas including rivers, streams and ponds.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
<p>Ft. Meadow</p> <p>1. Acquire the remaining parcels of land surrounding Ft. Meadow Reservoir for passive recreation and watershed protection purposes.</p> <p>a. Morse Property remaining acres near Holts Grove PU #307</p> <p>b. Parcel next to The Grove which is land locked PU# 242.</p> <p>c. Finalize transfer of Commonwealth of Massachusetts Highway land to the Department of Fish and Wildlife which includes Flagg Swamp PU# 264</p> <p>d. Parcel at end of Blaisewood Dr. next to old landfill and bike path. PU #203</p> <p>2. Acquire or protect with easements other available open parcels or portions of parcels as appropriate to protect water quality. (Parcels shown in Orange on map #7)</p>	<p>2011</p> <p>Inquire as to status</p> <p>Inquire as to status</p> <p>Confirm transfer</p> <p>Provide maps to Planning board and city council and Con. Com</p>	<p>City funds; state grants; public/private partnerships</p>	
<p>3. Continue to have the DPW remove sand from stormdrain outlets in the lake during times of winter drawdown of the lake. Continue catchbasin cleaning around the lake support <u>annual</u> cleaning.</p>	<p>2011 and ongoing.</p>	<p>City budget</p>	
<p>4. Continue to update and mark all storm drains and distribute information door hangers in all watersheds throughout the city annually or every two years.</p> <p>a. Set up a system with storm drain cleaner contract to require installation of storm drain markers where they are missing.</p> <p>b. Have scout groups continue to distribute storm drain fliers to</p>	<p>2011 ongoing</p>	<p>City budget for materials</p>	

educate the public every two years. c. Include educational information in water bills every two years.			
5. Ongoing education at the boat launch to all launch users about cleaning boats before entering and upon leaving the boat launch area to prevent reinfestation of weeds into the lake. Boat launch staff must be educated every summer and be diligent about weed education and removal.	Con Com and DPW working with Ft. Meadow Commission.	City budget	
6. Ongoing fliers and workshops should be held for lake owners and land owners within the watershed to educate landowners about “lake Friendly” lawn care and land use practices. The OAR workshops at The Grove beach area and city fliers distribution should continue.	Ft. Meadow Commission, Conservation Commission , DPW and OAR	Staff time city budget	
7. Ongoing annual monitoring and treatment as needed of invasive non native weed growth in Ft. Meadow Reservoir. Gaps in monitoring could result in huge costs if invasives are not dealt with quickly.	On going – Ft. Meadow Commission	City budget	
Hager Pond 8. The city should address the algae and weed problems in the Hop Brook Pond System by looking at a holistic view of the stream system. This should include: <ul style="list-style-type: none"> a. The Easterly Wastewater Treatment Plant is slated for upgrades in accordance with the NPDES permit issued by EPA and DEP b. Identify and address non-point sources of pollution contributing to this stream system. (road runoff). c. When Rte 20 near Hager Pond is reconstructed, have MHD/DOT install improved drainage structures along this section to remove sand from being discharged into the pond. d. Investigate whether dredging Hager 	DPW & MHD/DOT	City and state funding	

Pond is feasible and whether it will help the weed problem.			
All ponds, streams, brooks and wetlands 9. Continue the stream team program with volunteer groups and abutters to the brooks and streams throughout the city and address the action items identified in each stream section to be addressed. Follow through on action items listed for each stream.	2011 and ongoing Until all streams have been checked. Ongoing follow through	City budget	
10. Continue to fund and support DPW programs for cleaning and removing silt, street sand, fallen brush when obstructing flow within streams throughout the city .	Mayor, City Council provide funds- DPW to remove silt and street sand.	City budget	
11. Work with volunteers to remove trash from all major brooks and streams throughout the city.	Volunteers to be organized to remove trash- annual cleanup	\$ None	
12. Seek passage of a local Wetlands Protection Ordinance which will: a. Provide a larger protected buffer zone around wetlands. b. Protect vernal pool habitats and upland surrounding these pools. c. Provide greater protection to wetlands beyond that provided by the state Wetlands Protection Act.	2011 priority to establish ordinance Conservation commission	City budget	
13. Ongoing monitoring of construction projects, and education to all landowners throughout the city of Marlborough about stormwater and wetlands protection will be an important step in the long term protection of wetlands.	2011 ongoing DPW and Con Com	city budget	

Goal 2, Objective C: Preserve and protect wildlife, wildlife habitats and corridors and maintain and enhance biodiversity.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Protect through conservation restrictions, open space development planning and/or fee acquisition parcels of open space located within the wildlife habitat areas and corridors shown on Map #5 & 7,	2011 on going – Planning board, Con. Com and City Council	City funds, state grants, public private partnership	
2. Provide large versions of Map #6, 7 & 10 to City Council, Site Plan Review, Planning Board, Conservation Commission, Recreation Department, Dept. of Public Works, to be used in reviewing plans and when doing long range planning projects within the city to ensure, where feasible, that wildlife corridors and open space and recreation links are protected.	OSRC to provide map 2011 once plan is final OSRC ongoing review of all projects	City budget	
<p>3. Work with local groups to improve habitat areas where appropriate:</p> <p>a. Install blue bird boxes and have them maintained in February in the city open fields at:</p> <ul style="list-style-type: none"> • Old landfill on Bolton St. and the capped land fill at the Easterly Wastewater Treatment Plant. • Ghiloni Park (areas mowed 1x/year) • Felton Conservation Land • Cider Knoll/Mellow Farm field • Jericho Hill • Along ARRT where there are open fields • <p>b. Locate other areas throughout the city on private and public land to determine what types and where additional bird boxes can be installed to improve bird habitat. Encourage homeowners, school programs, scout group, garden clubs etc. to install</p>	2011 Scouts and School programs, garden clubs and other civic groups should be approached. Kits and schedules for installation and cleaning can be provided by con com	\$ None	

bird boxes as well.			
4. Vernal pool inventory and certification a. Work with volunteers and school groups to identify and certify vernal pools b. Provide educational program for children and adults about vernal pool protection. c. Once certified, determine program for regular monitoring.	2011 – on going With scouts,volunteers, summer interns and school programs. Certify 2-3 vernal pools per year until complete	\$ None	
5. Invasive species removal on city park and conservation lands. a. Control invasive non-native plant species on city conservation and recreation property. b. Educate and encourage residents to control and remove invasive species on their properties as well.	2011 coordinate volunteers to help with invasive species removal to preserve existing habitats. 2011 do education programs for garden clubs, sports groups and other organizations that should be educated.	City budget	

Goal 2, Objective D: Preserve and protect other natural areas particularly those of unique features-hilly topography, scenic meadows, wetlands, wooded areas.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Develop a plan for the protection of hilltops and other areas, which provide vistas and scenic views. Development of these areas should consider the impact both from the view out as well as the view in from other hills or roadways. These hilltops and scenic areas are listed in section 4 of the document. These locations are shown on map # 3 and should be provided to City Council and Planning Board.	2011 provide map to city council and planning board 2011 ongoing review of projects to ensure protection.	\$ None	
2. Develop a plan for the protection of existing fields and farms, which provide scenic views throughout the city. Work with farmers and current land owners to see how to protect	2011 distribute map to City council and Planning Board	City budget	

these vistas. Riano farm, Houde Tree Farm, Felton Conservation Land, Gulbankians fields on Broadmeadow Rd.; Hill side School farm on Robin Hill St.			
--	--	--	--

Goal 2, Objective E: Acquire, expand and enhance existing and new open space lands and related easements and conservation restrictions.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Work with developers in the preliminary stages of design for all projects to identify appropriate areas for open space protection.	2011 Conservation and Planning Dept – ongoing	\$ None	
2. Develop a priority plan for the acquisition or protection through restrictions and or easements of significant parcels of open space, which should be protected, for open space or recreation land. The plan should include acquisitions, conservation restrictions, public/private partnerships etc. Use Map 7 Unprotected parcels and section 5 list of parcels. a. Have Mayor send letter to landowners of significant parcels to request status of property. b. Based on these responses develop priority target parcels for consideration.	2011 send letters 2011 make priority list 2011 seek funding for protection program as needed.	\$ None (staff time)	

Goal 2, Objective F: Provide educational materials, signage, workshops for the public and schools to help in the protection and enhancement of our Natural Resources as identified in A, B, C and D above.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Develop public education programs aimed at publicizing important wildlife habitats and how they can be protected and how humans and wildlife can coexist. Get information from Mass. Fish and Wildlife and distribute as needed to newspapers, schools and library. Include this information on the kiosk at the trailheads and post on city web site.	Summer 2011 update kiosks Provide articles to newspaper four times a year.	\$ None- staff time	
2. Encourage lawn care maintenance by residents, municipal and businesses to use less water/ less fertilizers, herbicides and pesticide use. Promote integrated pest management and encourage the reduction or elimination of chemicals, and hazardous materials from being stored on the premises or used in processing	2011 develop an education program. Run on M8 and in newspaper, promote through Green Marlborough and garden clubs and other venues.	State/ private grants	
3. Work with city Tree Warden to reapply for Tree City USA status. This is a street tree health inventory and replacement program. To help protect the “urban forest” a.Do tree inventory and put into database. b.Do an inventory of street trees to develop a database for a street tree replacement program. And an inventory of unusual and champion trees.(see Goal 2 objective G. 4 below)	2011 Tree Warden should work with City Planner and seek funding to get equipment needed to run this program with volunteers	\$ None- staff time	
4. Revise Planning Board and Siteplan Review regulations (and other regulations if needed) to promote tree saving methods. Work with City Planner and Tree Warden	2011 Review with City Planner and Tree Warden.	Staff time city budget	

5. Continue to update the markers on the storm drains and provide door hanger fliers throughout the city to ensure that all residents are aware that nothing should be dumped down the drain. (also see Goal 2 Objective B. 4. above)	2011 -2015 replace markers as needed.	City budget for materials, volunteers for labor	
6. On properties with large lawns, encourage facilities to use their own wells rather than treated potable city water. And encourage them to naturalize their lawns into a wildflower meadow, needing less maintenance and little or no watering. First step – contact large companies with lawns and approach them with information about water saving and naturalizing information. Encourage “wild fields” rather than manicured lawns	2011 develop a brochure to promote “wild fields” 2011-15 follow up with these companies	\$ None	
7. Continue to explore other innovative methods for reducing water use throughout the city.	2011 ongoing work with water dept.	\$ None	

Goal 2, Objective G. Preserve and protect the air quality of our city by developing a policy to buy low emissions vehicles, strictly enforce no-idling laws, and promote tree planting and other measures to improve air quality.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Develop a policy to buy low emissions vehicles	2011 Sustainability Action Plan taskforce	\$ None	
2. Enforce no-idling laws	2011 work with Police and School Depts.	City budget	
3. Promote tree planting	2011 work with DPW and City Council on budgeting tree	City budget	

	planting and replacement		
4. Work with city Tree Warden to reapply for Tree City USA status Do tree inventory and put into database (see Goal 2 Objective F.3 above)	Tree Warden; City Planner	\$ None city staff time	
5. Promote walkable community -create walking trails and walking connections to schools, shopping etc. Promote – walking school bus program; encourage other walking to work places etc.	2011 work with school program; DPW school routes; Green Marlborough; City Planner	State grants. City/school staff time	

Goal 2, Objective H. Connect walking trails and bike trails with open spaces to provide non-motorized means of transportation.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Review map #8 of existing and proposed interconnected trails map and the panther paw trail. a. Prioritize easily implemented trails and connections on city owned land and begin construction. b. Identify other connections that need easements etc. prioritize list and begin investigating feasibility and acquiring connections. Both natural woods trails, and sidewalk connections c. Build new trail connections.	2011 OSRC prioritizes nature trails construction projects and assign to scouts. Work with DPW to identify sidewalk connections. 2011 continue process until complete.	State trails grant; private public partnership; staff time	
2. Continue to work with ARRT Inc. and abutting communities to promote the ARRT connection to Acton Train Station	2011-2015 Conservation Officer work with ARRT Inc. and steering committee	\$ None Staff time	
3. Work with walking school bus program to ensure that easy connections can be made to help connect neighborhoods to schools with walking trails, sidewalks etc. Create GIS map of walking school bus routes and keep updated annually as needed	Healthy Schools Program; GIS	\$ None Staff time; State DLTA technical assistance	

4. Millham Reservoir watershed land. Investigate the ability to add passive recreation walking and skiing trails around this reservoir watershed.	Conservation and OSRC work with DPW and State to see if this is feasibly. 2011.	\$ None staff time	
5. Lake Williams watershed land. Investigate the ability to add passive recreation walking and skiing trails around this reservoir. Balancing water quality requirements – which come first, with recreational enjoyment (a secondary benefit of this watershed)			

Goal 3

Protect the biodiversity of local plants and animals while maximizing passive recreation for people.

Goal 3, Objectives A: Promote, develop, and update management plans for all conservation land and land with conservation restrictions including maintenance schedules. These plans must include an inventory of habitat areas and invasive plant species.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
<p>1. Develop and maintain a management plan for all conservation land and include inspection schedules. Seek assistance from graduate students, volunteers, interns and school projects to prepare these plans and to do the inventory.</p> <p>The Grove Holts Grove Cider Knoll/Mellow Farm Felton Conservation Land Mt. Ward Ghiloni Park/State forest The Desert</p> <p>Management plans must include issues such as: beaver management, invasive species inventory and removal program; and where mountain biking is allowed, and restricts trail use in spring or muddy weather to protect trails from damage.</p>	<p>Begin summer 2011 do at least one or two per year so all plans are complete by 2015</p>	<p>\$ None Staff time</p>	

<p>2. City owned undesignated parcels</p> <p>a. Where parcel are in city ownership, but have not been formally designated for any specific use or management make the following designations:</p> <p>Desert parcels – Conservation ARRT - Recreation / DPW</p> <p>b. For each parcel noted above, have the City Council formally designate both its use and the department responsible for managing the property.</p>	<p>Conservation Officer to provide list to Mayor/ City Council in fall 2011 for review</p>	<p>\$ None Staff Time</p>	
<p>3. Develop and maintain a management plan for all land under Conservation Restrictions and include an inspection schedule:</p> <p>12 CR parcels are listed as PP on spread sheet in section 5. Boundaries shall be inspected at least once a year to ensure no encroachments have occurred.</p>	<p>Fall 2011 develop overall plan and schedule. Conservation Commission</p>	<p>\$ None Staff Time</p>	
<p>4. Make sure field management on conservation land is done in such a way as to increase biodiversity.</p>	<p>Conservation Commission on going</p>	<p>\$ None Staff and volunteer time</p>	
<p>5. Ensure that conservation land parking areas used in winter for skiing and snowshoeing are plowed to allow access for these winter recreation sports.</p>	<p>Conservation Commission- and DPW</p>	<p>\$ None Staff time</p>	

Goal 3, Objective: B Develop land management plans for all recreational lands to determine if the non-active recreation portions of these parcels can help to promote and protect biodiversity.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
<p>1. Review all recreation land parcels to determine if non-recreation use portions can be managed to promote and protect biodiversity. Use Map #6.</p>	<p>2011 work with recreation department and DPW to develop this plan. OSRC</p>	<p>\$None staff time</p>	

Goal 3, Objective C: Review all city owned land to determine if any or some portion of the properties may have value for biodiversity and manage it accordingly.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Review all city owned land to determine if any or some portion of the properties may have value for biodiversity and manage it accordingly. Use map #6 check the “municipal other” properties.	2011 work with GIS maps to identify these parcels. OSRC	\$ None Staff Time	
2. Encourage large companies to grow wild meadows in their corporate landscapes to promote butterflies and insect eating birds) encourage bird box installation etc. (See goal 2 Obj. F.6 above)	2011 OSRC	\$ None Staff time	

Goal 4

Provide quality recreational facilities and adequate recreational opportunities for city residents of all ages for both passive and active recreation.

Goal 4, Objectives A: Promote, develop, and update management plans for all active recreational facilities including maintenance schedules.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. The Recreation Department and the Department of Public Works shall continue to implement the comprehensive management plan for the maintenance of all recreational facilities throughout the city This plan addresses scheduling of fields to allow for resting of fields and also addresses traffic and parking issues.	2011 Recreation department ongoing	\$ None Staff time	
2. The Recreation Department and the DPW shall implement the 5 year capital outlay plan to improve and upgrade recreational facilities (see	2011 ongoing	\$ None staff time	

list in the appendix-F)			
3. Update web site annually with information about programs, maps to fields, recreation facilities listed and information about reserving fields.	2011 ongoing	\$ None staff time	
4. Continue to require sports groups to clean up the fields they use. In addition use the Annual Project Clean Sweep as part of a parks cleanup day in the spring of each year that encourages community-wide participation in the up keep of our public recreational facilities.	2011 annually	\$ None volunteer time	
5. Jericho hill woods walking trail system needs to be installed.	2011 Conservation and Recreation Dept.	\$ None Volunteer time	Completed by eagle scout 2012
6. Have City Council and Mayor convey maintenance and management of the Assabet River Rail Trail to the Recreation Department for management and DPW for maintenance of this linear park. (same as item Goal 3.A. 2 above)	2011 (work with Legal department on language)	\$ None staff time	
7. Determine a plan for the Steven's St. land managed by Recreation and implement the plan. Could be considered for walking trail, historic park connection to the cemetery, community garden	2011 Recreation Department	\$ None Staff time	
8. Ward Park Upgrade – improve track, field, and drainage at this site	2012 Recreation Department	State grants, city funds, public private partnerships	
9. Memorial Beach upgrade (same as Goal 4.D.3.below)	2011 Recreation Department	State Grants, City Funds; public	

		private partnerships	
10. Indoor pool and gym facility should be explored	2015 Recreation Department should look into the feasibility and cost of constructing such a facility	\$ None Staff time;	

Goal 4, Objective B. Ensure that programs provided by the city give opportunities for all age groups and abilities, including handicap accessibility as feasible. Recreation programs should be available for all age groups from toddlers to seniors.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Install a canoe access dock ramp at The Grove, to allow for access to the water for boating or fishing that is handicap accessible.	2014 summer purchase and install	State or private grants, city funds, private public partnership	
2. See Appendix G for list of items that need to be address to make all conservation and recreation facilities accessible. Most of them are already ADA accessible. Of high priority are: Memorial Beach and Ward Park	2011	State grants, city funds, private public partnership	
3. Continue to provide programs for all ages through the recreation department as are provided in 2009 – make facilities available to all age groups and programs for all age groups.	2011 Recreation Department continue annually	City budget	
4. Work to make at least one Conservation trail within the city handicapped accessible for some portion of the trail	2012 Conservation Commission	City budget, volunteer scouts	

Goal 4, Objective C: Promote, develop and update management plans for all conservation land and land with Conservation Restrictions including maintenance schedules. This plan must include inventories of habitat areas, invasive species inventories. Trail use/maintenance issues and when trails need to be fixed or retired. (similar to Goal 3-A 1-5)

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Continue to update maps of the city's conservation and recreation facilities, as well as state parklands to inform the public of these resources and their locations. Post on web site – update annually Publish in newspaper – annually Publish through other media outlets – annually	Conservation & Rec. Depts.	\$ None staff time	
2. Where appropriate, and provided that public safety is not jeopardized, the conservation commission shall continue to allow hunting at the Desert Conservation Land which is the only large tracts of city-owned conservation land in order to better manage wildlife populations. This shall be reviewed annually by the Conservation Commission to ensure no use conflicts have occurred and that the area still has a healthy safety margin.	August of Each year	\$ None Staff and commission time	
3. Hire summer interns to manage conservation land, maintain trails and provide interpretive program to provide information about the natural habitat values and to encourage appropriate use of conservation land.	Conservation Commission Annually	City Budget	
4. Coordinate stewardship/volunteer groups to help manage conservation land. Schedule spring and fall cleanups and trail days for conservation land.	Annually – begin in 2011 summer	\$ None City staff	
5. Trail construction at Jericho Hill to create a walking loop from the recreation building to the top of the hill. (same as Goal 4 A-5	2011	\$ None volunteer work	Constructed in 2012 by eagle scout

above)			
6.Create a management plan for each of the 9 conservation land areas. Develop a budget for each to determine long term costs of maintenance. Plan should include: <ul style="list-style-type: none"> • Field mowing and maintenance • Invasive plant inventory and removal • Trail maintenance and bridge repairs • Boundary sign markings • Establish rules for mountain biking, (i.e. no use during muddy seasons spring etc. coordinate with bike clubs) (see Goal 3 A-1 above)	2011-2020 Conservation Commission will do one plan a year	\$ None Staff time and volunteer time	
7.Tail use and maintenance changes needed at some properties periodically. i.e. Dog control and pooper scooper enforcement especially at The Grove at Ft. Meadow- this can be a cyclical problem.	2011 ongoing	\$ None Staff time	

Goal 4, Objective D. Take advantage of funding programs for acquisition and adequate maintenance of recreational facilities and open space parcels. Expand recreational facilities and conservation areas as needed to meet community needs.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Additional Field needs are: a. Another field at High school for practice field b. Sanitary facilities at Track (eagles are going to fund some of this) c. One new football fields (preferably turf fields to extend playing times) d. Turf field at MHS and MMS rear fields to extend play time and maintenance.	2011 Recreation Department set priorities and timeline for these facility needs and determine a budget for each.	State grants; city funds; private/ public partnership	
2. Land fill site on Bolton Street – develop into fields to meet field needs as described in section 7 of the plan, and as noted above. Include	2011 fall begin planning	State grants, city funds, private/ Public	

two multi use fields.		partnership	
<p>3. Memorial Beach develop a plan for upgrading this facility and then implementing the plan as funds allow.</p> <p>Upgrade sanitary facilities Upgrade parking lot and access Improve handicapped accessibility Upgrade picnic tables and other amenities at the site</p>	2011-2014 Recreation Department to review and pursue as funding becomes available.	State PARC grant; city funds;	Received PARC grant FY 2013-14
4.MHS needs new stands at the track fields	Recreation Department/ School Facilities	City Funds, State grants or public/ private partnership	
5. Evaluate construction of a shelter from rain or sun at Ghiloni Park-Pavillion	2012	City funds; private public partnership; other grants	
6. Marlborough Country Club-ensure adequate protection of this property – if needed city should consider buying development rights or rights of first refusal.	2011	City funds; state grants; private/ Public partnership	
<p>7. The Recreation Department, Conservation Commission, City Planner, DPW and CDA should aggressively pursue state and or private funding for improvements to recreation facilities and acquisition of land for open space.</p> <p>a. Compile list of available grants b. Pursue funding as appropriate</p>	Annually	\$ None staff time	
<p>8. The city should investigate use of innovative municipal mechanisms to raise funds for con com and recreation projects such as:</p> <p>a. Community Preservation Act, b. Revolving funds for land acquisition and long term maintenance of recreational facilities, c. Designated voluntary</p>	OSRC Look into these 2011 fall	\$ None Staff time Citizen volutneers	

contributions on tax bills, land banking etc. d. Pursue any other innovative funding mechanisms that may become available.			
9. Create carefully crafted/public Private partnership opportunities to carry out the goals of the open space plan i.e. with sports groups; schools; private organization	OSRC and Recreation Department	\$ None Staff time	
10. Review and update the present user fee schedule for recreation programs as needed.	Annually-Recreation department	\$ None Staff Time	
11. Work with local land trust to help in the acquisition of key parcels as needed. (i.e. Sudbury Valley Trustees, The Trustees of Reservations, Trust for Public Lands.)	Conservation Commission; Recreation Department	\$ None Staff time	
12. Develop a community garden program Locate sites that would be appropriate and centrally located Develop site into plots Designate (conservation or recreation) to manage these plots	2011 locate property 2012 begin program 2013 continue ongoing	City Budget, volunteer project	2012-Cider Knoll community garden was build. \$1000 was allocated in 2013 & 2014 budget, Eagle Scout built fence, volunteers did work.

Goal 4, Objective E. Develop an intercommunity trail system to link all open spaces and recreation lands together. (overlaps with Goal 2, Obj. H above)

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Set up an OSRC subcommittee to review the conceptual intercommunity trail plan. Map #8	OSRC, Conservation Commission and	\$ None Staff time DLTA grant	2012 DLTA grant for ped/bike

a. Establish where acquisitions or easements will be needed b. Determine areas where sidewalks will be needed. c. Determine priorities for trail connection development d. Have the walkable routes subcommittee review progress and keep progress going on these trail links (see Goal 2, H-1)	City Planner. Review progress annually	provided	plan.
2. Create trail connection from Farm Rd. to Sudbury reservoir – work with DCR	2012 Conservation Commission and DCR	\$ None Staff time volunteers	
3. Create trail network at the DCR filter beds next to Sudbury Reservoir – work with DCR	Conservation Commission and DCR	\$ None staff time & volunteer	
4. Check all city lands to see if any trail connections and walking trails can be made through it. – sewer lines, utility easements etc.	OSRC, Conservation Commission and DPW	\$ None Staff time	
5. Create a map that can be distributed to City Council and Planning Board and other departments so that as projects are developed this plan is accessible for consultation.	OSRC and Conservation Commission	\$ none staff time	

Goal 4, Objective F. Continue to develop and connect with intra-community trail systems to take advantage of shared resources in neighboring communities.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Continue to work with adjacent communities on connecting trail systems including with <ul style="list-style-type: none"> ○ Greater Callahan Group/Sudbury Reservoir- Framingham, Sudbury, Southborough. ○ Desert Conservation Area/Memorial Forest/ Assabet River National Wildlife Refuge- Sudbury, SVT, State Forest, ARWR and Federation of Women's Clubs ○ Walnut Hill – Southborough, Westborough, Northborough 	OSRC; Conservation Commission; City Planner	\$ None Staff time	

Goal 4, Objective G. Determine how to deal with trash, graffiti and litter throughout the city and on recreational and conservation parcels

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Graffiti: Work with police department to determine when this occurs and what the pattern is and pursue options to curtail this activity. 2. Trash/litter: Determine where this is occurring and add trash cans where possible or signage and some enforcement where it is not.	OSRC, Conservation Recreation and Police Dept.	Staff time	

Goal 5

Preserve the character, historic, and cultural resources of the community.

Goal 5, Objective A. Develop a city-wide plan for encouraging agricultural and open space use of land.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Develop and implement strategies to preserve remaining agricultural areas for that use. This may include creation of a business plan to increase agricultural sales in Marlborough and/or other funding mechanisms available for protection of agricultural land. The last remaining farms are: Riano's Farm, Houdes Tree Farm, Gulbankian fields, Magee's fields and other Ch. 61A parcels found on Map #7 and in Section 5 of the plan. 2. Contact land owners to begin dialogue about the importance of these farms to the city's landscape.	OSRC- Conservation Commission, City Planner;	Staff time	

Goal 5, Objective B: Preservation and enhancement of local historic landscapes, especially those that complement local historic structures, and preserve natural landscapes to protect the view shed from and to those historic structures.

Action Item	Schedule/ Responsible	Potential Funding	Comment
-------------	--------------------------	----------------------	---------

	Department	Source	
1. The OSRC should work with the Historic Commission to identify sites deemed to have importance because of their historic landscapes and develop a plan to enhance those historic landscapes.	2014 Discuss this section with Historic Commission	Staff time	
2. The Rice Homestead should be acquired or permanently preserved in some fashion, at its current site.	2015 Historic Commission and City Planner	State/ federal grants; public private partnership	
3. The Building Department and City Planner should be required to review all projects on the historic list to encourage the protection of these structures and landscapes as feasible. A policy should be established to accomplish this goal.	Ongoing-	Staff time	
4. An inventory of historic structures was completed by the historic commission; this list shall be consulted whenever a demolition permit or construction project is proposed on or near these structures. Recommendations from the Director of Planning and consultation with the Historic Commission should be provided to see if any preservation could be obtained.	Ongoing- Historic Commission, City Planner,	Staff time	
5. Develop a plan for an historic Marlborough walking trail, complete with brochure, for residents and visitors to the city.	2015 Historic Commission, Volunteer project	Volunteer time	
6. Provide a map showing the historic sites within the city to the Planning Director, and Building Commissioner for their easy reference.	2015 Historic Commission	Volunteer Staff time	

Goal 5, Objective C: Provide a funding source to help promote land acquisition, historic preservation and the development of recreation facilities.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
<p>The city should investigate use of innovative municipal mechanisms to raise funds such as:</p> <ul style="list-style-type: none"> a. Community Preservation Act, b. Designated voluntary contributions on tax bills, land banking etc. c. Pursue any other innovative funding mechanisms private/public partnerships that may become available. <p>(similar to goal 4, obj. D. 8 above)</p>	2011 Planning Dept./City Council/ MEDC	Staff Time	

Goal 6

Provide connectivity among all open space parcels- parks, conservation land, school system, wildlife corridors, and trails throughout the city and within adjacent communities.

Goal 6, Objectives A: Create a city wide trail system that connects places of interests such as parks, conservation lands and schools.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
(See Goal 2 objective H.1 above) to create all types of trail connections	2011 OSRC prioritizes nature trails construction projects and assign to scouts. Work with DPW to identify sidewalk connections. 2011 continue process until complete.	State trails grant; private public partnership; staff time	

Goal 6, Objective B: Create trail links with adjacent park properties in bordering communities.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
(See Goal 4 objective F.1. and Goal 7 objective A 1) to create trail links into	2012-2015 Planning	State DLTA	2012 DLTA

neighboring towns conservation or state park lands.	/Conservation	grant; staff time	grant received
---	---------------	-------------------------	-------------------

Goal 7

Promote and develop regional open space and recreational opportunities, especially through the connectivity of walking and biking trail systems.

Goal 7, Objective A. Work with adjacent communities to understand their open space and recreation needs and coordinate the purchase and development of conservation and recreation land acquisitions, trails and recreational facilities as appropriate.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1.Inventory contiguous open space and recreation facilities on the city's borders and communicate Marlborough's intentions with the bordering communities, a. Greater Callahan Project- Sudbury, Framingham and Southborough b. Upper Assabet River way-Hudson, Berlin, Northborough, Westborough c. Walnut Hill- SVT, Northborough d. The Desert- Sudbury, Hudson	2011 ongoing Conservation/other communities	Staff time	2012 continued to work with all groups...
2. Identify allowed uses in open space parcels within the region (i.e. where mountain biking, horseback riding, dirt-bike riding, swimming, etc. is allowed) and encourage appropriate public use of these areas through civic group presentations and new releases.	2014 Conservation Commission	Staff time	
3. Promote regional recreational complexes, which the city can share, use of: Fields at filter beds, driving range, link recreational facilities together where feasible..	2012-2015 Conservation & regional groups	Staff time	
4.Work with DCR on several park improvement/management items. Sudbury Reservoir – carry in carry out items- especially for fishermen trash .	2011-ongoing Conservation/ DCR	Staff Time	

Sudbury Reservoir filter beds trail system construction.			
5. Continue working with the Greater Callahan State Park Group which includes DCR, Framingham Con. Com & Planning, Sudbury Con.Com.and Sudbury Valley Trustees (local land trust) Work with DCR on land protection projects in the Greater Callahan area.	2011 meet with stakeholders once a year.	Staff time	

Goal 7, Objective B. Promote the development of regional bicycle/pedestrian paths for transportation and recreation purposes.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Support the conversion of regional abandoned railroads into bicycle paths. a. Assabet River Rail Trail – Marlborough to South Acton- support the remaining sections through Stow, Maynard and Acton b. Central Mass line- Waltham to Berlin- crosses just north of Marlborough Sudbury town line at Desert Conservation land.	City Planner, Conservation Commission, Planning Board, City Council, Mayor	\$ none Staff time	
2. Update map #9 the street bike map to show which streets are safe for biking and which are not as roadways are updated.	2011DPW GIS /MAPC	DLTA grant funds; staff time	

Goal 7, Objective C. Continue to work with state agencies, local land trusts, and adjacent communities to create corridors, expand and protect parks, forest, and conservation land and facilities in the city and on the municipal boundaries. (Similar to Goal 4 Obj. F)

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Continue to work with state Department of Environmental Management, Sudbury Valley Trustees, and Sudbury Conservation	ongoing	Staff time	

Commission on the Management of the Desert/Memorial Forest Natural Area			
2. Continue to work with the state Dept. of Conservation and Recreation (DCR) to manage the Sudbury Reservoir and Callahan State Park.	ongoing	Staff & volunteer time	
3. Continue to work with the town of Hudson on the lake management of Ft. Meadow Reservoir.	ongoing	Staff time	
4. Continue to work with the MWRA, Sudbury Valley Trustees, Southborough and Northborough on trail connections in the south west corner	Ongoing	Staff time	

Goal 8

Engage community citizens in preserving and maintaining open space, recreation and natural resource areas throughout the city.

Goal 8, Objective A: Provide educational materials to help educate citizens about open spaces and recreation resources.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1. Develop displays for public information on Conservation and Park land facilities. Display at: Library Schools City Hall Recreation Department	Conservation Commission; GIS office	Staff time	
2. Create better interactive map system on city web site for recreation and conservation land facilities Update annually	Conservation Commission and Recreation Department	Staff & volunteer time	
3. Develop an adopt a park stewardship program (similar to the adopt a space program)	Recreation Department/ DPW		

Goal 8, Objective B: Create a stewardship program for city owned parcels of conservation and recreation land

Action Item	Schedule/ Responsible	Potential Funding	Comment
-------------	--------------------------	----------------------	---------

	Department	Source	
1.Create a city web site where people can sign up to volunteer for city projects.	Conservation Commission, DPW; Recreation Department;	Staff time	
2.Develop programs for volunteers to help with: Invasive species removal Trail maintenance and stewardship Litter cleanup Lead trail walks	Conservation Commission	Staff time	

Goal 8, Objective C: Engage schools in knowing about our biodiversity, natural history, and human history of the city.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1.Promote Biodiversity days in grammar schools	OSRC and Conservation Commission work with School curriculum teachers	Staff time	
2.Develop walking history tours of city	Historic Commission and volunteers	Staff & volunteer time	
3.Hold conservation land walks for kids and families	Conservation Commission; Green Marlborough and volunteers	Volunteer time	
4.Enlist teachers in environmental agendas and support grants to promote this.	Conservation Commission with curriculum teachers	Staff & volunteer time	

Goal 8, Objective D: Promote and enforce carry in carry out policy.

Action Item	Schedule/ Responsible Department	Potential Funding Source	Comment
1.Carry in Carry out policy on all conservation lands where feasible. Trash barrels are placed at most entrances for easy cleanup and disposal but not internal to site.	Conservation Commission; Recreation Department	Staff time	
2.Encourage all athletic fields and school events to reduce water bottle	Work with recycling committee to develop	Staff time	

disposal at sports events- encourage recycling and bringing reusable containers etc.	system. Also work with Sustainability Committee to meet this goal		
--	---	--	--

SECTION 10

PUBLIC COMMENTS

Two public meeting were held one on November 16, 2010 and another on several years later on October 30, 2013 to review the Draft Open Space and Recreation Plan. The meetings were both held at Memorial Hall, City Hall in Marlborough from 7-8:30 PM. Other comments were submitted as noted in chronological order below to arrive at this final approved plan.

On November 15, 2010, 16 people attended. Comments were provided in writing and a brief summary of the meeting has been provided. These are attached in appendix H. Changes to the plan based on these comments have been made. Overall the plan was well received and generated good comments on open space protection needs and recreational goals.

Additional comments were provided by Melissa Cryan on July 7, 2011 giving conditional approval of the plan but requiring 11 additional items to be included. This letter is attached in Appendix H and the comments have been incorporated into this final plan.

On October 30, 2013 a second public hearing was held to ensure that the Environmental Justice Community was invited to participate and provide input to the plan. Comments were provided in writing and area attached in appendix H. A summary of the meeting is also included as well as the EJ community outreach done.

Comments from the following agencies are also included in Appendix H. These comments have also been incorporated into the plan where it made sense.
(Still waiting on these as of Nov. 21, 2013)

MAPC- regional planning agency- under review by Joan Bloustein
Planning Board – Under review

Chief Municipal Officers – Mayor, City Council- being submitted for review Nov. 21, 2013

SECTION 11

REFERENCES

Documents used and referenced to create this document are as follows:

1. Marlborough 2003-2008 Open Space and Recreation Plan
2. Commonwealth of Massachusetts, Massachusetts Outdoors 2006 Statewide Comprehensive Outdoor Recreation Plan- (SCORP) Deval L Patrick Governor; Ian A. Bowles, Secretary Executive Office of Energy and Environmental Affairs
3. Framingham Open Space and Recreation Plan Executive Summary July 2008
4. Open Space and Recreation Planner's Workbook; Commonwealth of Massachusetts. Deval Patrick, Governor Timothy Murray, Lieutenant Governor; Executive Office of Energy and Environmental Affairs; Ian Bowles, Secretary; Division of Conservation Services Bob O'Connor, Director; 100 Cambridge Street, suite 900 Boston, MA 02114
 - www.state.ma.us/enir DCS Open Space Plan Workbook.